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# **Background Report: Transportation Element of the New Town Plan**

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Planning, Zoning and Development Department

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L e e s b u r g

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Respectful of the Past  
*Mindful of the Future*

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## **Background Report: Transportation Element of the New Town Plan**

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This report is written to provide a basis for the preparation of the Transportation Element of a new Leesburg Town Plan. The report summarizes the Transportation Element of the 1997 Leesburg Town Plan and compares the policies and objectives found therein to the transportation recommendations made by the community at the sector and visioning meetings conducted by the Town in the summer and fall of 2003. A summary of the recommendations collected at these meetings was reported to the Planning, Economic Development, and Environmental Advisory Commissions, and to members of the community at the “Workshop on Public Comment Themes” held on June 17, 2004.

This report also assesses the strengths and weaknesses of the 1997 Town Plan related to its coverage of transportation issues, and notes whether progress has been made in achieving the 1997 Town Plan’s objectives. Relevant sections of the Loudoun County General Plan and other transportation-related documents are reviewed to determine how their policy guidance compares with the transportation goals and objectives of the Town. In addition, the background report includes a review of existing conditions and trends to determine how changing conditions to the transportation system might affect the goals, objectives, and policies of an updated transportation element. The report addresses the above information with a series of findings that provides direction for writing the new Transportation Element and concludes with a set of draft goals and objectives.

### **Importance of Transportation Planning**

Transportation facilities represent a major component of the physical environment that define and influence a community’s character in several different ways. An efficient and effective transportation system is critical to the economic vitality of an area. The town’s transportation system (including roads, public transit, bicycle, and pedestrian facilities) not only influences the location and intensity of land uses but also enhances the town’s attractiveness to expanding and new businesses. Furthermore, enhancements to the existing transportation system should always consider the impacts to quality-of-life for local residents. The design of a transportation corridor, as the public realm, can greatly enhance the “sense of place” of an area through the use of hardscape and landscaping elements. Downtown Leesburg is one example a place where transportation corridors are sensitive to the surrounding urban context and “sense of place”. A transportation corridor can also detract from the attractiveness an area; for example where an interstate divides once cohesive neighborhoods.

### **Relationship between Transportation and Land Use**

Transportation is one of the most important services provided by government. It connects citizens with their jobs, schools, and other community activities and allows the movement of goods and services between buyers and sellers (i.e. commerce). Yet, this most important service is not always integrated into the community fabric. This is most evident in the interaction between transportation and land use. Transportation and land use have a complex and very intertwined relationship. Roadway availability and design heavily influence land use location and intensity. For example, commercial uses often seek to locate on higher-order roadways (i.e. arterials) with a certain level of

traffic in hopes of capturing “pass-by” customers; however, too much development causes congestion of the roadways meant to provide mobility rather than accessibility. The congestion cannot be resolved solely by the expansion and creation of new transportation facilities. The neotraditional town planning movement is one example of where efficient land use patterns, integrated transportation networks (i.e. grid streets), and the use of non-automobile transportation facilities could serve to relieve reliance on roadways.

### **Transportation’s Role in Economic Development**

The term economic development has many meanings within a community, but the function and appearance of transportation facilities almost always plays a vital role in the economic health of a community. The influence of transportation facilities on economic vitality starts at the most basic level, the personal economics of Town’s residents. Leesburg residents on average expend 18% of their household budgets on transportation costs while performing normal life activities. Congestion, distance to work, and crash rates are a few of a transportation system’s characteristics that influence personal economics. The proximity of convenience needs, such as grocery stores, personal services and banking to residential areas represents a second level of economic development. The ability of such uses to locate near their service population without expensive transportation facilities increases the likelihood that such uses remain viable and may allow residents to utilize alternative facilities such as sidewalks for access. One of the most visible indicators of healthy economic development, office complexes and shopping malls, represent regional developments dependant upon larger transportation facilities such as arterial roadways. If such roadways are congested or unsightly, these land uses may be discouraged from locating in these areas. The overall appearance of a community highly influences an area’s ability to attract new businesses and persons, such as corporate headquarters and tourists. Businesses tend to invest more in locations that have a high quality-of-life, and corporate employers have an easier time attracting employees to these locations.

Transportation also influences a different form of economic development: commerce or the moving of goods between buyers and sellers. The movement of people to and from the region also falls into this category. The presence of Route 7, Route 15 and the Dulles Greenway play an important role in regional economic activities. Local businesses generally have good access to the Interstate Highway system for Leesburg for the overland transportation of goods, while the presence of Leesburg Executive Airport and Dulles International Airport provide a huge resource for corporate and tourism activities. With the construction of the Dulles Greenway, Leesburg is at the terminus of VA Route 267, a major east-west thoroughfare through Northern Virginia. The Leesburg Executive Airport is also an increasingly important transportation facility within the region serving private and corporate aircraft. As the County seat in Loudoun County, Leesburg has always been a destination point for tourists and a business center. Most recently, however, economic development associated with good road connections to the east, utility capacity, and a growing residential population has elevated Leesburg’s position as an activity center and strengthened Leesburg’s interest in attracting emerging technology industries within the corporate limits and the joint land management area (JLMA) shared with the County.

### **Jurisdictional Responsibility for the Transportation System**

The transportation network within the Town of Leesburg provides mobility for automobiles, public transit, aviation, bicycles, and pedestrians in one comprehensive system. The responsibility for

maintaining and/or enhancing the transportation system varies between local, county, regional, and state entities depending on the type of improvement and its stage in the implementation process. Figure 1 summarizes the division of responsibility for transportation corridors within the town.

**Figure 1: Transportation Responsibilities within the Town**

Nature of Coordination	Private Developer	Town of Leesburg	Loudoun County	Region	Commonwealth of Virginia
Design Standards	Must adhere to Town and VDOT standards for all modes.	Updates, maintains, and enforces multimodal standards for all public and private Town streets	Provides design guidance, e.g., Bicycle and Pedestrian Mobility Master Plan		Updates, maintains, and enforces standards for its public streets (primary routes)
Planning/Coordination	Within and adjacent to proposed development	Performs for all modes of transportation in Town	Provides support for transit (e.g., Ride-On); coordinates with Town	WMCOG assists with multimodal, arterial, and limited access issues	Provides support to Town from NOVA District office
Funding	Transportation improvements within and adjacent to development	Maintenance and capital for all modes of transportation	Supports transit (e.g., Ride-On)		Maintenance and capital for primary routes built to VDOT standards
Construction Plans – Preparation & Review	Prepares to Town and VDOT standards	Reviews/approves all plans; prepares Town-initiated transportation improvements			Prepares plans for VDOT corridors (e.g., Route 7); approves developer-funded projects in these corridors
Construction	Transportation projects within and adjacent to proposed development	Town-initiated transportation improvements			Capital projects on primary streets (e.g., Route 7/15 Bypass)
Maintenance	Private streets maintains by homeowners association	Public streets in Town except Route 7 and 7/15 Bypass			Route 7 and 7/15 Bypass

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## Summary of the Transportation Element in 1997 Town Plan

The 1997 Town Plan represents the second revision of the first Town comprehensive plan completed in 1974. The Transportation Element included in the plan is generally regarded as “served its purpose” and is now in need of restructuring to reflect the Town’s current movement towards a multi-modal transportation network and more integration between land use and design. Several of the conclusions and recommendations from the report are based on dated information so they will also need to be updated as part of the New Town Plan. The overarching tone of the existing plan element is the importance of an efficient and effective transportation system to continue growth in Leesburg. Components of the system are listed as streets, sidewalks, bikeways, and public transportation, including the Leesburg Executive Airport. The Transportation Element serves to link long-range planning initiatives with short-range, implementation type activities such as amendments to the Town Plan, rezoning applications, capital projects, and development applications. The plan element is presented under three major components – the street system, public transportation system, and non-motorized system. Each of these major components is summarized below.

### Street System

In the 1997 Town Plan, the street system was reported as a downtown “grid” of streets with a “radial” network around the downtown. Specific roadways in the transportation system are inventoried and described as one of six functional classifications. Street functions range from “carrying regional through traffic” to “providing access to adjoining properties”. Figure 8.2 in the 1997 Town Plan establishes eight roadway classifications for determining the purpose of a roadway and the design elements that comprise it. These design elements include:

- |                                       |                           |
|---------------------------------------|---------------------------|
| ▪ Function                            | ▪ Building setbacks       |
| ▪ Traffic volume                      | ▪ Landscaped buffer width |
| ▪ Intersection and curb cut standards | ▪ Median                  |
| ▪ On-street parking                   | ▪ Street trees            |

The discussion of street system also acknowledges the measurement of level of service for determining the performance of the transportation system. This description of traffic conditions follows a letter system (A through F) whereby LOS A demonstrates the best level of service and LOS F demonstrates the poorest level of service. The 1997 Transportation Element establishes a Level of Service C standard for signalized and unsignalized intersections within the town to evaluate new development applications for an anticipated build out year and a Level of Service D standard for signalized and unsignalized intersections to evaluate conditions associated with the new development application at the projected build out plus twenty years. The plan element is very committed to this high level of service standard for evaluating new development, stating:

*It is sometimes argued that as an area grows that it is unrealistic to expect to uphold a LOS of ‘C’ or better. To the contrary, as the town grows, there is no legitimate reason why the level of service should be expected to decline. Transportation efficiency, effectiveness, and convenience can be improved with diligent transportation planning and consistent, faithful implementation of transportation standards and policies over the long haul.*

The commitment to a Level of Service C standard is considered by some to be unrealistic for particular incorporated areas in Virginia as vehicle miles traveled continues to increase and municipal funding shortfalls limit building many major new roadway improvements. As many communities can attest, a high-level of service standard established at the local level is often eroded away by more regional, through traffic that contributes significantly to the demand of the facility without being held accountable for negatively impacting available capacity on the roadway network. In this way, Leesburg could potentially be forced to program improvements for the major roadway network that accommodates commuting trips through town to maintain acceptable level of service standards. The concept of level of service and considerations for whether the standard should be revised in the Town of Leesburg are discussed further in the section of this report entitled “Existing Conditions, Trends, and Changes” under the subheading “Level of Service”.

### **Public Transportation System**

In Leesburg, the Transportation Element of the 1997 Town Plan reports that residents are provided access to local transit service for intra-town trips by fixed-route, fixed-service service and commuter bus, rail, and aviation for more regional trips. While the Town generally lacks development densities sufficient to fully support transit services, the concentration of demand at identified locations (such as park and ride lots) do support transit that provides residents with alternatives and opportunities. Air service is provided at either Reagan National or Dulles International Airports for mainstream commercial travel and at the Leesburg Executive Airport for corporate and private jet travel. The element is very explicit to state that residential uses should not be permitted within the Ldn 65+ noise contour around the airport in order to protect the operation and growth around the Leesburg Executive Airport.

### **Non-motorized system**

The Transportation Element combines bicycle and pedestrian travel modes into one discussion. Sidewalks and bicycle paths are envisioned to provide residents with non-traditional mode choices for shorter trips. A greenways and trail system supplement the system. Recommended pedestrian and bicycle routes are delineated on the Transportation Policy Map included at the end of the Transportation Element.

At the conclusion of the data and analysis, the Transportation Element provides goals and objectives for enhancing the transportation system for Leesburg. There is one goal and nine objectives included in the plan element with a corresponding implementation plan and action program for implementing improvements.

### **Analysis of 1997 Town Plan Goals and Objectives**

The 1997 Town Plan memorializes the community’s common vision for dealing with growth and development through the long range planning horizon (i.e. 2025). Made up of nine separate elements, they together provide guidance for decision makers on day to day and long term issues. Our evaluation of the one goal and nine objectives presented in the currently adopted Transportation Element is provided below.

*Goal: "To provide a safe and efficient transportation system integrating automobile, pedestrian, and bicycle traffic in all sectors of the community and connecting into regional systems."*

**Accomplishments:** The existing Town Plan addresses the efficient provision of facilities throughout the Town and connections to regional systems.

**Related Community Issues and Comments:** Transportation was one of the prevalent issues at the public sector and visioning meetings. All of the comments called for an improved transportation system as presented in the goal; although suggested solutions varied greatly and often conflicted. Comments covered a wide range of specific topics, including:

- Improve interconnectivity of roadways, walkways, and bike paths within the town's residential and commercial areas.
- Provide an appropriate public transportation system.
- Design an appropriate pedestrian and bicycle transportation system throughout the town.
- Develop the airport's potential as part of the town's transportation network.

**Conclusion:** This goal does not address the impact of transportation facilities on the physical landscape, land use, or funding mechanisms. Furthermore, transportation facilities potentially enhance the interaction of land uses and ultimately residents. The community indicates their desires toward this end.

**Recommendation:** Refine the goal to address the community's concerns with both short-term and long-term expectations. Some of these issues could be addressed by public education on existing programs and policies. Increased standards can assist in the implementation of these design concepts in a highly visible manner.

*Objective: "Protect elements of the Transportation Plan through right-of-way reservation and acquisition."*

**Accomplishments:** Based on a review of recent roadway projects in major corridors, it appears that past efforts primarily focused on the dedication of ROW during the development process. This technique has produced mixed results. The most recent audit of the 1997 Town Plan (dated May 30, 2003) concludes that many right-of-way needs identified for major arterials within the town are still outstanding, including those for portions of Crosstrail Boulevard, Battlefield Parkway, and Route 621. Right-of-way has been secured/preserved for some portions of the town's minor arterial roadways, including Route 643 and Catoctin Circle, however dedications are still being pursued for Edwards Ferry Road and portions of Fort Evan Road. Right-of-way reservation and acquisition in through collector corridors has been successful for Route 643, portions of Edwards Ferry Road, Potomac Station Drive. Efforts are still on-going to secure right-of-way for future improvements to the Airport Connector Road, Keystone Drive, portions of Route 621, and Russell Branch Parkway.

**Related Community Issues and Comments:** Although no comments specifically addressed the protection of future street rights-of-way, many participants at the sector and visioning meetings expressed the need for the Town to provide an improved transportation system and street network as Leesburg develops.



**Conclusion:** Protection of right-of-way is critical to fiscally sound planning for future transportation corridors. Additional efforts should be made to achieve this objective

**Recommendation:** The Town should investigate available legal mechanisms to protect such resources. Possible tools may include, but are not limited to, maps of reservation, eminent domain, and both on- and off-site negotiations.

*Objective: "Maintain a road network which will ensure a level of service 'C' or better upon build out of individual projects, and a level of service 'D' or better upon build out of each project, plus 20 years."*

**Accomplishments:** The Town is using an intersection based level of service performance measure for planning and budgetary (CIP) purposes. Furthermore, individual development applications are subject to a traffic impact study to quantify impacts to surrounding roadway network and determine appropriate mitigation measures. The current system of proffers does not always provide sufficient improvements to the transportation system that will maintain the adopted level of service standards concurrent with new development. Nonetheless, development applications have been approved in the past that mitigate transportation impacts from development to the satisfaction of Town Council even when the particular level of service standard can not be maintained.

**Related Community Issues and Comments:** Although no comments addressed the specific standard level of service, many participants at the sector and visioning meetings expressed frustration about the current amount of traffic congestion.

**Conclusion:** This policy does not consider the external impacts of regional travel nor does it address transportation modes other than the automobile. The Town's level of service standard is also skewed only to the impacts from automobile trips and other jurisdictions have shown that multi-modal measurements begin to address bicycle, pedestrian, and transit solutions.

**Recommendation:** The Town should either create a level of service standard that takes into account multi-modal travel or allow development applications to apply a modal split reduction factor to their traffic impact studies in exchange for desirable development patterns (i.e. transit oriented design, etc.) that would lower their impacts to the surrounding roadway network. Furthermore, the Town should complete an internal audit of the current system for evaluating and maintaining level of service standards to determine whether more efficient and equitable provisions are appropriate and whether the current level of service standards should be revisited. Possible provisions include transportation performance standards to allow for direct correlation of development impacts to proffer payments.

*Objective: "Encourage equitable distribution of financial responsibility for construction of off-site road improvements necessitated by new development in accordance with the transportation cost data reflected in Table 8.4."*

**Accomplishments:** The Town has been using Table 8.4, Off-Site Transportation Cost Data, from the Transportation Element with inflation adjustments for evaluating rezoning & special exceptions applications. To date, the Town has collected approximately \$2,721,877 in proffers from private developers. These monies have been used towards the construction of off-site improvements to the transportation system.

**Related Community Issues and Comments:** Participants at the sector and visioning meetings expressed awareness that funding is a major issue that keeps the transportation system from working in an acceptable way. Some participants expressed the belief that developers should pay for transportation improvements necessitated by growth.

**Conclusion:** This objective does not adequately address the full range of funding options available to the Town nor the full costs for implementing off-site road improvements associated with new development.

**Recommendation:** The objective should be refined to discuss equitable funding mechanisms for off-site impacts created by development. Priority needs should be identified and ranked.

*Objective: "Develop a safe and cost-effective street and road network which indicates functional street classification and separates traffic by function."*

**Accomplishments:** The Town uses the criteria set forth in Table 8.2 of the Transportation Element, the Transportation Policy Map, and other policies from the Transportation Element Implementation Program for planning and budgetary purposes. Since 1997, several roadway projects have been undertaken consistent with this objective, including those shown in Figure 2 (\* indicates project cost included \$182,500 in proffer funds).

**Figure 2: Town and VDOT Transportation Improvement Projects Completed Since 1997**

YEAR	PROJECT	LOCATION	DESIGN AND CONSTR. COST
1997 (VDOT)	Plaza Street Extension Including Sidewalk	E. Market Street to Gateway Drive	\$8,609,000
1997 (Town)	W. Market Street Left Turn Lanes & Traffic Signal	Catoctin/Fairview	\$390,500*
1997 (Town)	S. King Street Traffic Signal	Evergreen Mill/Governors Drive	\$120,000
1998 (VDOT)	Widening of Route 7 From Four To Six Lanes With Turn Lanes (Includes Bridges Over Goose Creek)	Goose Creek to Rt. 7/15 Bypass	\$7,558,000
1998 (VDOT)	Completing Of Interchange and Flyover On Rt. 7	Rt. 7/15 Bypass	\$20,601,000
1998 (VDOT)	Sycolin Road At Rt. 7/15 Bypass Intersection Improvements	Rt. 7/15 Bypass	\$1,836,000
1999 (Town)	N. King Street @ Ida Lee N.B. Left Turn Lane & Sidewalk Project	Route 15	\$265,000
2000 (Town)	North Street Sidewalk	Harrison Street to Brown's Meadow Court	\$201,000
2000 (Town)	S. King Street Sidewalk and Drainage Improvements	W&OD to Fairfax St.	\$1,693,000
2001 (Town)	N. King Street Trail Project	Oakcrest Manor Dr. to Dry Hollow Road	\$150,000
2001 (Town)	E. Market Street Sidewalk Project	Harrison Street to East "Y" on E. Market Street	\$296,000
2002 (Town)	Traffic Signal – South King Street	Country Club Drive	\$114,000
2002 (Town)	Fairview Street Trail & Sidewalk Improvements	W. Market St. to Riding Trail Court	\$948,000
2002 (Town)	Catoctin Circle Widening Project	S. King St. to South St.	\$5,083,000
2004 (Town)	E. Market Street Widening Project	Loudoun Street to Catoctin Cir	\$2,189,000
2004 (Town)	Catoctin Circle Trail Project	W. Market St. to Childrens Center Road	\$343,000
2004 (Town)	Sycolin Road Northbound Left-Turn/Right-Turn At Lawson Road/Tolbert Land Right-Turn Lane Projects	Sycolin Road	\$367,000
2004 (Town)	Traffic Signal & Sidewalk/Turn Lanes	Tolbert Lane @ Evergreen Mill Road	\$551,000
<b>TOTAL</b>			<b>\$51,314,500</b>

**Related Community Issues and Comments:** Participants at the sector and visioning meetings expressed a desire for a more completely integrated street system and transportation network. Participants also noted the impacts of regional traffic patterns through the Town.

**Conclusion:** This objective focuses only on the automobile mode of travel and does not address other modes within the transportation systems that impact a community. In addition, recent discussion on the topic of mobility around the country shows that the street system should be treated as a multi-modal transportation corridor to maximize public expenditures for mobility, especially public transit.

**Recommendation:** Two separate objectives should be created with one strictly addressing functional classifications and the other concentrating on design standards for satisfying multiple criteria for balancing the need to move traffic and reinforce livable design within the same transportation corridor.

*Objective: "Plan for and construct integrated, alternative transportation modes, including public/ mass transit, pedestrian paths, and bikeways."*

**Accomplishments:** The Town of Leesburg has benefited from the construction of 3.5 miles of multi-use trails built since 1997. The Town Parks and Recreation Department has also completed a "Comprehensive 20-Year Parks, Recreation, Open Space, Trails, and Greenways Master Plan" to implement additional multi-use trails. However, the proposed bicycle network is based solely on a trail system between recreation facilities. This system is ideal for recreational riding, but may cause circuitous routes for potential bicyclists that would choose to bicycle rather than drive for short trips. Regarding public transit, the Town has worked with the Virginia Regional Transportation Association on its local bus routes and with Loudoun County on a suitable location for a park-and-ride facility.

**Related Community Issues and Comments:** Many participants at the sector and visioning meetings expressed a strong desire for a transportation system that accommodates more than just smoothly flowing automobile traffic. In particular, participants called for the system to address the needs of pedestrians and bicyclists. Participants also called for a convenient public transportation system; although most wanted better local and regional bus service some even expressed a desire for a Metro train line be extended to Leesburg.

**Conclusion:** Strides have been made towards achieving this objective through the adoption of the parks master plan; however efforts should be focused to implement additional pedestrian and bicycle facilities within the public right-of-way with an emphasis on transit connections for higher order trips. Higher order trips typically represent trip lengths over one mile in length, whereby walking or bicycling would not be the primary means of travel between two destinations, but these modes of transportation could provide connections to transit stops and/or close-by land uses that make public transit a feasible alternative for longer distance travel.

**Recommendation:** The New Town Plan should incorporate livable street design principles into various policies identified in the Transportation Element for improving the specific environments supportive of each mode of travel.

*Objective: “Encourage adequate parking for future residential, business, and employment uses downtown.”*

**Accomplishments:** In 2003, the Town completed a Comprehensive Parking Management Study for the downtown and the implementation plan from that study was approved by the Town Council in September 2004. In addition, a new trolley service (i.e. Green Route) connecting residents and visitors alike between the downtown, Leesburg Corner Premium Outlets, and points in between provides increased access to the downtown without generating additional demand for parking spaces.

**Related Community Issues and Comments:** Participants at the sector and visioning meetings voiced the desire to have appropriate parking facilities and opportunities in the downtown.

**Conclusion:** At the time of the study, no new parking facilities were warranted for the next ten years based on current development projections. Town officials feel comfortable with the conclusions from the report given that they are regarded as conservative for the downtown. The study concluded that better management of existing facilities would meet demand in the intermediate year planning horizon (i.e. 2013).

**Recommendation:** Continue implementation of the recommendations from the 2003 Comprehensive Parking Management Study. Projected parking needs outlined in the study should be reviewed and revised based on infill development and redevelopment within the downtown. Town officials should also consider public-private partnerships or shared parking solutions for meeting the needs of downtown workers and review the current parking buyout program administered by the Town.

*Objective: “Reserve, acquire, and facilitate construction of commuter parking areas in developed and developing areas of the Town.”*

**Accomplishments:** The Town has not acquired property for park and ride lots, but is has worked with the County’s Department of Public Transportation to locate a site that is consistent with the Town Plan and zoning regulations. The Department, which rents spaces in existing parking lots, has applied for a special exception from the County to build a park and ride lot on Sycolin Road at the Bolen Park property. Recent negotiations between the Department of Public Transportation and the owner of that property were not successful.

**Related Community Issues and Comments:** Participants at the sector and visioning meetings recognized the need for a park and ride lot for commuters. Most suggested the lot be located north of the airport, where Battlefield Parkway is proposed to intersect with the Dulles Greenway. This is the general location called from the currently adopted Town Plan.

**Conclusion:** A park and ride lot in Leesburg convenient to Dulles Greenway would be an important facility to help promote transit use by commuters. This is also consistent with the County’s Toll Road Plan (discussed in the next section of the report), which calls for the eventual development of 3,000 parking spaces in that general location to serve as a regional facility for western Loudoun County. An additional park and ride lot to serve bus routes using Route 7 should be addressed in the Town Plan.

**Recommendation:** The New Town Plan should address the need for appropriately located commuter parking lots. Opportunities for funding these lots through County and/or private partnership

revenue sources should be explored as well as the potential for contributions by various regional transportation agencies.

*Objective: "Promote and protect Leesburg Municipal Airport as a major regional airport."*

**Accomplishments:** The Town has developed an aggressive airport improvement plan that includes additions and renovations to existing facility infrastructure. The level of investment required for the development plan demonstrates the Town's commitment to the airport and recognition of the facility as an asset to the community and the region. A major expansion was completed in 2003, adding 18,093 square feet of terminal space and 25 aircraft parking spaces.

**Related Community Issues and Comments:** The community voiced a desire to incorporate the airport's potential into the transportation network for updating the Transportation Element.

**Conclusion:** Land adjacent to the airport continues to be rezoned from commercial to residential land use. This is in direct conflict with the objective. Although the airport has been promoted, it has been protected; nor has it been integrated into an inter-modal transportation system.

**Recommendation:** A specific objective with identifiable actions should be added to the land use element, such as the designation of land for airport-related uses. The Town should prohibit residential rezonings near the airport to protect runway approach paths.

*Objective: "Continue to refine street standards to address the needs of the town in terms of function, aesthetics, safety compatibility with the properties they serve, and cost of public maintenance."*

**Accomplishments:** Whenever VDOT has revised its standards to address function and safety, Leesburg has revised its standards. The Town established the Residential Traffic Task Force in 2000 to develop a plan that addresses traffic calming issues in residential areas in Town. When approving subdivisions and land developments, the Town has not accepted streets unless they were built to VDOT standards so that they would be eligible for state maintenance funds. Finally, the Town has annually updated the costs figures for off-site street improvements, which are required of certain developers.

**Related Community Issues and Comments:** Comments were made repeatedly during the public input sessions in the summer and fall of 2003 to design roads in the town that are complementary to Leesburg's historic character, provide traffic calming measures, and are built at a human scale with appropriate streetscape enhancements.

**Conclusion:** This objective is still applicable for the new Transportation Element; however, it should be amended to discuss multi-mode opportunities and specifically identify where policies, programs, etc. need to be changed for implementing these improvements.

**Recommendation:** The new Town Plan should include an objective that is broader in application but more specific in implementation. At a minimum, an objective should call to review, and revise where appropriate, the Town's Design and Construction Standards Manual (DCSM) to permit more livable street design. Livable streets traditionally seek to balance the needs of varying transportation modes within a corridor, while considering the function of the roadway in relationship to the

surrounding land use. In this way, livable streets consider function and context simultaneously when making transportation decisions.

### Implementation Program

In the context of the goals and objectives of the Transportation Element of the 1997 Town Plan, the Implementation Program discusses policies focused on the adequate preservation or acquisition of right-of-way for road improvements, outlined general road system policies, and listed specific policies that focused on transportation or roadway corridor improvements. After a thorough discussion of specific improvements to streets in the Town of Leesburg, the Implementation Plan briefly acknowledges policies for promoting public transportation, pedestrians and bikeways, and transportation management improvements.

The Transportation Policy Map included in the 1997 Transportation Element is referenced in the Implementation Program but was not implemented. The map highlights the policies for the roads in the Town, including the planned functional classification. The map also includes a linear symbol for pedestrian/bicycle trails, but these lines are overshadowed by the planned roadway improvements. The map constitutes a major thoroughfare plan for the Town. A series of maps showing the plans for all modes of transportation could be combined as a master transportation plan in the New Town Plan.

The road system policies outlined in the Implementation Plan are generally applicable today; although the primary emphasis on automobile improvements should be balanced with other opportunities for increasing mode choice. The policies address the balance of transportation interests with community interests such as aesthetics, neighborhood integrity, and safety. Design context is discussed only in the context of being sensitive to the fabric of the Town. Separation of regional through traffic and truck traffic from the Town's traffic is a stated policy, as are access management principles. Good practices for minimizing the need for sound walls and for negotiating contributions from developers are discussed. Other policies highlight the desire for public transit along the toll road, participating in regional transportation planning, and seeking funding from regional sources and proffers.

Six pages of transportation corridor policies focus on specific needs for the limited access, major arterial, minor arterial, and through collector roadways. Most of the specific needs articulated in these policies remain today; however, the need to link other modes with these transportation corridors is evident.

A brief set of public transportation policies cite the Leesburg Executive Airport as a resource to the Town that must be maintained. Regional mass transit and commuter lots are mentioned. Pedestrian and bicycle policies are thorough, but they focus on trails and multiuse paths. Sidewalks integrated with the transportation corridors are not included in these policies.

The transportation management policies focus on traffic management, listing policies related to managing traffic demand from developments and coordinating traffic signals. The management of all transportation modes is not discussed.

## Action Program

The Action Program from the 1997 Town Plan's Transportation Element listed nine items to accomplish in the five years following publication of the plan. These action items are listed below with an assessment of the accomplishment of these items.

*Action: "Continue the Loudoun Memorial Parkway landscaping and design concept for Route 7 within the town and South King Street, including construction of a raised median as South King Street is improved."*

**Assessment:** Several small projects towards fulfilling this action item have been implemented; however there still lacks a continuous and cohesive streetscape plan that reinforces the street with the character of Leesburg.

*Action: "Rank primary and secondary road improvements and include them in the Capital Improvements Program and VDOT's annual revision of the six-year Improvement Program."*

**Assessment:** The Town of Leesburg coordinates with the regional transportation agencies, including VDOT, to advocate for including projects within town limits in the agencies' various work programs. Specifically, the town has accomplished this action item with VDOT each year to date for roadway improvements in the state's primary work plan. Leesburg does not receive secondary funds from VDOT.

*Action: "Update the 1983 Transportation Study and review every five years in conjunction with the Town Plan review."*

**Assessment:** The 1983 Transportation Study was last updated in 2002. In subsequent updates, the Town should consider expanding the scope of the study to include a local transportation model for forecasting future year transportation conditions. The continual growth in population experienced in the town since 2002 now warrants the need for the town to develop a model that most accurately monitors the physical and political environment specific to Leesburg. The need for this model will increase as the town commits to a multi-modal transportation system for maintaining mobility within the town.

*Action: "Assure town involvement in regional transportation decisions through active coordination and interface with Loudoun County and regional transportation planning agencies."*

**Assessment:** The Town of Leesburg participates in the interim Northern Virginia Transportation Authority and coordinates with Loudoun County for implementing projects through the sharing of gas tax monies. The town also works with the Northern Virginia Transportation Authority to secure Regional Surface Transportation Program (RSTP) funds and Congestion Management Air Quality (CMAQ) funds and with the Virginia Department of Transportation (VDOT) for urban monies funding to implement transportation improvements. The Town should continue to strengthen coordination channels with these regional transportation agencies in the future. To this end, the Town of Leesburg should lobby to become a voting member on the Northern Virginia Transportation Authority.

*Action: "Develop criteria for acceptance of sidewalks, bikepaths, and trails by the town to minimize the town's responsibility for maintenance cost and liability."*

**Assessment:** Criteria for accepting sidewalk, bicycle path, and trail improvements is contained in the Town Ordinance. These improvements are secured during the land development review process.

*Action: "In cooperation with the Virginia Municipal League, the Town will seek legislation reducing the current minimum of 50' right-of-way and 30' pavement in instances where it furthers the interests of the Town. Such town interests include infill development within the Old and Historic District, the facilitation of bonafide low and moderate cost housing in accordance with the Town-adopted affordable housing program, and where a new development incorporates neo-traditional community design principles in a manner where ample off-street parking and adequate service access is provided."*

**Assessment:** The Town currently defers to the standards of the Virginia Department of Transportation for local street width standards that are incorporated into the Design and Construction Standards Manual (DCSM). As of January 2005, the VDOT has revised its recommended standards for residential streets as set forth in the "Subdivision Street Design Guide". This guide will allow residential streets to be constructed with 28 feet of pavement width when traffic volumes are projected to be below 400 vehicles per day. The Town should incorporate these standards into the DCSM. The Town should continue to explore partnerships with the Virginia Municipal League for convincing the VDOT to allow some of the provisions set forth in the state guide for residential streets to non-residential streets, especially in the Old and Historic District.

*Action: "Work with the Virginia Department of Transportation to provide a trail connection between the W&OD Trail and the C&O Canal via White's Ferry."*

**Assessment:** The Town, in partnership with the County, completed a grant application under the Transportation Efficiency Act for the 21<sup>st</sup> Century (TEA-21) to secure enhancement funds from the federal government to move forward with this project. That application was denied. The two government agencies will re-apply in the upcoming year, citing the improvement as part of the County's Mobility Master Plan and the Town's 20-Year Parks Master Plan.

*Action: "On roads upon which significant volumes of traffic will emanate from proposed develop, assure the maintenance of LOS "C" upon build out of such development, and LOS "D" upon build out plus 20 years for such development through the rezoning, platting, and development permitting process."*

**Assessment:** The Town continues to review traffic studies prepared in support of private development applications to identify improvements for the transportation system needed to maintain LOS 'C' and LOS 'D', respectively, with build out of the proposed development. This standard has become more difficult to attain in some portions of the town as existing traffic volumes increase on these roadways. Existing development and right-of-way constraints limit some implementation of proposed improvements suitable for improving level of service (eg. turn lanes at major intersections). The concept of level of service and considerations for whether the standard should be revised in the Town of Leesburg are discussed further in the section of this reported entitled "Existing Conditions, Trends, and Changes" under the subheading "Level of Service".

*Action: Clearly and effectively provide the town's position on the preferred alignment of the Western Bypass at all appropriate Bypass planning meeting, hearing, and public forums and through any other appropriate means.*



**Assessment:** Since 1997, the concept for the Western Bypass, now known as the Western Transportation Corridor (WTC), through Loudoun County has been studied by a partnership of regional transportation agencies and the Town. Acceptance of the recommendations in the draft Environmental Impact Statement (EIS) has been mixed. The desire for a WTC was recently raised again and the Town Council did endorse a proposed alignment for the corridor east of Goose Creek as part of Resolution 2004-191 passed on November 23, 2004. Under that resolution, the Town Council urged the Virginia General Assembly to take a “cooperative, regional, leadership role in establishing a new bridge crossing of the Potomac River east of Goose Creek for the limited access highway between Goose Creek and the American Legion Bridge to support the Western Bypass”. While the town is supportive of the bypass, it will examine all subsequent plans, policies, and programs in support of the new facility to make sure that it does not negatively impact quality-of-life for Leesburg neighborhoods or terminate at Route 7. It is also important to Town officials that the new bypass not negatively impact traffic flow on Route 15 and that the proposed bridge crossing not draw additional regional commuter traffic through the town.

**Conclusion:** The conclusions one can draw from a review of the implementation plan and supplemental action program are that, in general, the policies remain valid today. The plan is focused heavily on street improvements for the motorist, and other modes receive less attention. The integration of the policies for different transportation modes is limited. The integration of the policies with related land use and economic development policies is only apparent in the discussion of protecting right-of-way for streets, managing the impact of development on the roadways, and encouraging development to provide pedestrian and bicycle networks. The Town has been placed in a reactive rather than proactive posture on many major transportation items such as the WTC, Crosstrails Blvd. and funding major improvements.

**Recommendation:** An updated version of these policies can be used in the new Transportation Element with attention paid to providing safe and efficient multimodal access along the transportation corridors, in the context of surrounding land use, while meeting the traffic capacity needs. These policies should direct the town toward a proactive leadership role so it can better control solutions.

### Summary of Other Plan’s Guidance on Transportation Resources

The Transportation Element for the New Town Plan needs to be closely coordinated with other State, Regional, County, and local transportation plans and/or policies that impact transportation planning within the Town of Leesburg to ensure reasonable implementation of the New Town Plan. This section of the background report summarizes the consulting team’s review of existing documents, data sets, and plans prepared by authoritative agencies within Loudoun County and highlights issues, policies, or directives that may influence transportation planning in Leesburg. Materials reviewed for development of the Transportation Element include:

- Northern Virginia 2020 Transportation Plan: Summary Report
- Loudoun County Revised Countywide Transportation Plan
- Loudoun County Bicycle and Pedestrian Mobility Master Plan
- Loudoun County Public Transportation Plan
- Toll Road Plan
- Alternative Transportation and Land Use Activity Strategies Study (ATLAS)

- Town of Leesburg Downtown Traffic Study
- Town of Leesburg Residential Traffic Management Plan
- Town of Leesburg Comprehensive 20-Year Parks, Recreation, Open Space, Trails, and Greenways Master Plan
- Town of Leesburg Comprehensive Parking Management Study
- Leesburg Executive Airport 2005 Draft Master Plan Update

The conclusions and recommendations from these documents, data sets, and plans that impact transportation planning in the Town of Leesburg are summarized below. At the end of each section, a list of major accomplishments since adoption of the document and direction for incorporating these agency recommendations into the Leesburg Town Plan are provided.

### Northern Virginia 2020 Transportation Plan: Summary Report

The Northern Virginia 2020 Transportation Plan was completed by the Northern Virginia Transportation Authority (NVTa) Transportation Coordination Council (TCC) of Northern Virginia in January 2000. The geographic area represented in the plan includes the counties of Arlington, Fairfax, Loudoun, and Prince William; the independent cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park; and the towns of Dumfries, Herndon, Leesburg, and Vienna. Transportation improvements recommended in the plan serve to maintain mobility now and in the future with a safe, efficient transportation system that connects the places people want to go with a broader range of choices. Solutions discussed in the plan for maintaining mobility are truly multi-modal - including highway, transit, rail, bicycle, pedestrian, and technological advancements. The authors of the plan understand that decisions made today will lead to continued expansion, enhancements, and repair of the regional transportation system and this will undoubtedly continue to shape the growth and economic vitality of Northern Virginia. To this end, the Northern Virginia 2020 Transportation Plan serves as the first step towards implementing the recommended improvements. All improvements in the 2020 Plan must also be placed on the regional long range plan before they move towards implementation.

The Northern Virginia 2020 Transportation Plan develops seven goals for meeting the challenges of maintaining a sustainable transportation system. These goals include:

- Develop, implement, and maintain an interconnected transportation system that enhances quality-of-life and promotes a strong and growing economy
- Provide safe, economic, and reasonable access at reasonable cost to residents, businesses, and visitors to Northern Virginia
- Respect natural environmental quality and cultural and historic resources
- Recognize the linkage between transportation and land use, with a view to enhanced inter-jurisdictional coordination of transportation and land use planning
- Incorporate the benefits of technology
- Identify funding opportunities needed to implement the plan
- Enhance Northern Virginia relationships among our jurisdictions and agencies, between our customers and clients, and the business community

Transportation projects identified for achieving the goals highlighted in the plan are targeted for implementation in one of three time frames – short-term (completed before 2010), mid-term

(completed between 2010 & 2020), and long-term (completed after 2020). Together, the recommended improvements should support population and employment growth forecasted into the long range planning horizon; however only approximately 50% of the total funding for the 2020 Plan can be reasonably expected over the next twenty years, leaving the remainder, or about \$14 billion, unfunded and in need of other funding mechanisms to implement the transportation system identified to serve the long-term needs of the region.

Several projects depicted in the 2020 Transportation Plan will directly impact the Town of Leesburg. These include:

- Expand the Route 7/15 Bypass from 4 to 6 lanes (Before 2010)
- Construct/Expand Battlefield Parkway from 0/2 lanes to 4/6 lanes (Before 2010)
- Construct interchanges for Dulles Greenway at Battlefield Parkway and Crosstrail Boulevard (Before 2010)
- Construct interchange for Route 7 at Battlefield Parkway (Before 2010)
- Extend Metrorail service to the Town of Leesburg (Beyond 2020)

Other projects targeted for Route 7, east and west of town, to convert the corridor into a limited access facility by 2010 and for the Dulles Greenway to add high-occupancy vehicle lanes and Metrorail service by 2020 should improve access to the town and provide mobility options for regional trips. However, these improvements should also be evaluated by the Town for local impacts since these facilities will undoubtedly attract more “through” traffic to these roadways.

**Conclusion:** The Northern Virginia 2020 Transportation Plan is tasked with maintaining regional mobility into the long range planning horizon. The seven goals outlined in the plan are generally consistent with the transportation vision for Leesburg. Most of the funding for implementing the plan is going to roadway and transit improvements; with less than one percent earmarked for bicycle and pedestrian enhancements. Several of the improvements targeted for Leesburg support conversion of Route 7 to a limited access highway. These improvements should be coordinated closely with the town to make sure that these projects (i.e. interchanges & road widening) are designed to complement the local transportation system in the desired context of urban design and land use supported by the town. These improvements also have the potential to attract more “through” traffic to the town that is traveling between the Washington D.C. metropolitan area and points west.

**Recommendation:** The Town of Leesburg needs to coordinate with the Northern Virginia Transportation Authority (NVTA) Transportation Coordination Council (TCC) as projects in the Northern Virginia 2020 Transportation Plan are incorporated into the regional long range plan for implementation. The Town should also make sure that it is actively involved in all feasibility studies and preliminary design plans for major improvements included in the long range plan to advocate for context sensitive design and coordination with land use.

### Loudoun County Revised Countywide Transportation Plan

The Loudoun County Revised Countywide Transportation Plan (CTP) was adopted by the County Board of Supervisors on July 23, 2001, and serves as the companion document to the Loudoun County Revised General Plan. The Revised CTP clarifies the County’s strategy for the orderly construction, maintenance, and improvement of a multi-modal transportation system – including

automobiles, public transit, bicycling, and walking. The solutions and programs recommended in the plan are not linked to a specific implementation schedule, but rather are proposed to be implemented in either the short-term (i.e. five year), intermediate-term (i.e. ten year), or long-term (i.e. twenty year) planning horizons for achieving the County's overarching transportation vision.

One consistent theme throughout the Revised CTP's "overarching transportation goals" is the vital link between land use and transportation for providing sustainable development patterns. Many towns with Loudoun County are struggling to balance historic character, quality-of-life, and ever increasing traffic demands within their communities; especially the amount of pass-through traffic that is the direct result of increasing low-density, residential development in the more rural areas. To this end, the Revised CTP supports a multi-modal approach to maintaining mobility within, and leading to, places like Leesburg when coupled with local land use decisions to target "smart growth" development in specific geographic areas identified for multi-modal consideration – including the Dulles Greenway and Route 7 in Leesburg. With transportation complementing land use, these walkable, mixed-use centers help to reduce the need for multi-lane roadways by capturing a percentage of trips on-site, provide potential hubs for future transit service, and provide mobility options for the transportation disadvantaged.

Recommendations for implementing a more livable, multi-modal transportation system in Loudoun County are set forth in the policies formulated throughout the Revised Countywide Transportation Plan. Several of these policies directly impact transportation planning within the Town of Leesburg. Above all, the Revised CTP clearly recognizes the importance of public transit, bicycle, and walking modes of travel in helping to meet mobility goals for the intermediate and long range planning horizons that were traditionally met with automobile-oriented improvements. Five of the fifteen overarching transportation goals in the Revised CTP directly reference public transit and non-motorized transportation (i.e. bicycle and pedestrian) and policy direction is set forth throughout the document to integrate all travel modes into new road design and implement traffic calming measures to manage automobile cut-through traffic and provide safe, convenient, and visually attractive crossing alternatives at major roadways and intersections. Specific projects identified within the Revised Countywide Transportation Plan in and around the Town of Leesburg include:

- Coordination between the Town of Leesburg and the Virginia Department of Transportation on the feasibility of planning and building Edwards Ferry Road as a two-lane facility with a bicycle path outside of the town but within the Joint Land Management Area (JLMA). This road is also a candidate for a scenic by-way designation.
- Support for the future study of extending the Dulles Corridor Bus Rapid Transit (BRT)/Rail Project to Leesburg.
- Coordination with the Town of Leesburg to study the proposed design and function for Crosstrail Boulevard between Route 621 and Route 7.

Plans, programs, and projects identified in the Revised Countywide Transportation Plan for the short term (i.e. five year) planning horizon are implemented in the Virginia Department of Transportation Primary and Secondary Road Improvement Programs, Virginia Transportation Development Plan, or subsequent County and Town master plan documents. For intermediate (i.e. ten year) and long term (i.e. twenty year) planning horizons, Loudoun County bases their transportation decisions on its land use policies and transportation model outputs. In this way, transportation is again recognized as serving land use rather than the other way around.

**Conclusion:** The “overarching goals” and policies in the Loudoun County Revised Countywide Transportation Plan (CTP) are supportive of the desire in Leesburg to move towards a multi-modal transportation system for maintaining mobility options within town. The County’s Plan also advocates for the connection between land use and transportation to support decision making about future transportation projects and identifies intergovernmental coordination as the key towards starting this process. The plan supports “smart growth” principles for transit-oriented development in yet to be determined areas of the county along the Dulles Greenway and Route 7. Furthermore, there is a need for the town to partner with the county to study land use in the Route 7 Corridor for both the town and the Joint Land Management Area (JLMA) in anticipation of the conversion of the road to a limited access facility identified in the Northern Virginia 2020 Transportation Plan.

**Recommendation:** The Town of Leesburg should actively coordinate with Loudoun County on the land use and transportation policies identified in the revised CTP that impact the town and the JLMA. To this end, a “communication” team of planners and engineers for both governments may be helpful to start dialog and provide a structure for continued coordination – with the first topic being land use in the Route 7 Corridor. Town officials should continue to coordinate with Loudoun County and the Virginia Regional Transportation Association (VRTA) to evaluate locations for potential transit centers in the long-term planning horizon.

### Loudoun County Bicycle and Pedestrian Mobility Master Plan

The Loudoun County Bicycle and Pedestrian Mobility Master Plan refines the policies, programs, and projects identified in the Countywide Transportation Plan for non-motorized travel and furthers an implementation program for bringing bicycle and pedestrian improvements from paper to pavement. Completed on October 20, 2003, the master plan identifies a countywide network of recommended bikeways and walkways to improve non-motorized transportation and includes further policy and program recommendations that support and encourage more cycling and walking countywide. The master plan reports that there is already significant numbers of people walking and bicycling in locations that are not safe. The master plan also reports that there are no on-street bicycle lanes or signed bicycle routes anywhere in the County and that only 13.8% of the roadways included in the study have sidewalk facilities. These “man-made” barriers to walking and bicycling are the primary focus of the master plan – including the Dulles Greenway (Route 267), Route 7 in the east, and Route 7/US Highway 15 Bypasses in Leesburg.

The magnitude of bicycle and pedestrian deficiencies within the county was documented with both qualitative and quantitative measures. Most roadway cross sections in the county do not include sufficient width for paved shoulders; forcing bicyclists to share the travel lane with motorists. Recent efforts to incorporate off-road side paths near newer development have produced inadequately designed facilities for bicycle activity – characterized by narrow widths, poor pavement or surface quality, frequent curves and undulations, and lack of connectivity. Bicycle parking was also found to be lacking at most destinations. These field observations were confirmed using a bicycle level of service (BLOS) model to measure the attractiveness for bicycle activity on major roadways within the county, including those radiating from the Town of Leesburg. Overall, most roadways within the county demonstrate poor bicycle level of service. The primary factors

contributing to this poor level of service are a lack of roadway space for the bicyclist, high traffic volumes, and high travel speeds.

A companion assessment for pedestrian facilities within the county found that it is common to find intersections with one or more missing curb ramps and without adequate pedestrian crossing amenities such as designated crosswalks or pedestrian signal heads. These field observations were confirmed using a pedestrian level of service (PLOS) model to measure the attractiveness for pedestrian activity on the same major roadways identified for the BLOS model. Similar to the results of the BLOS model, most major roadways do not adequately accommodate pedestrians; although the historic downtowns in the county did rank better than other areas. The primary factors contributing to this poor level of service are a lack of sidewalks, minimal use of buffers and street trees, high traffic volumes, and high travel speeds.

Armed with baseline data, the County's Bicycle and Pedestrian Mobility Master Plan recommends several opportunities for incorporating bicycle and pedestrians improvements into the transportation system. Several of these improvements are targeted for areas in Leesburg and highlight the importance for the Town and County to work together for implementation. Specific projects identified in the master plan for the Town of Leesburg include:

- Connect the growing neighborhoods in North Leesburg to new and existing schools, Ida Lee Park, Balls Bluff Regional Park, and the countywide trail network via bicycle and pedestrian improvements along US Highway 15.
- Connect Market Street and the rest of downtown with planned parks, large residential developments, and numerous employment areas via bicycle and pedestrian improvements along Sycolin Road.
- Improvements to River Creek Parkway and Crosstrail Boulevard to accommodate non-motorized accommodations.
- Connect residential, commercial, school, and park uses along Edwards Ferry Road and Fort Evans Road via bicycle and pedestrian facilities.
- Support the Town's desires to enhance access to the Washington and Old Dominion (W&OD) rail-trail for adjacent residential and commercial properties.
- Coordinate bicycle access for Route 7 to ensure that potential bicycle facilities for Market Street are included.

These, and other improvements, are graphically illustrated in the Loudoun County Proposed Bicycle and Pedestrian Network Map and supported by general policies and a recommended institutional framework for implementing these improvements.

**Conclusion:** The Loudoun County Bicycle and Pedestrian Mobility Master Plan provides a comprehensive evaluation and recommended action plan for increasing the propensity of bicycle and pedestrian activity countywide. The master plan is critical of existing conditions and recent improvements to support bicycle and pedestrian activities. A "Network Map" for bicycle and pedestrian improvements in the county is proposed in the master plan, including potential corridors for preference as non-motorized transportation corridors within the Town of Leesburg. One of the thirteen high priority action items in the implementation plan included with the master plan is to encourage the towns in Loudoun County to adopt the Network Map as local policy, or suggest amendments for the Network Map within the towns.

**Recommendation:** The Town of Leesburg should review the Network Map created as part of the County's Mobility Master Plan and incorporate reasonable recommendations into local transportation policy documents, including the new Town Plan and the Design and Construction Standards Manual. Town officials should also coordinate with the county for the potential to share baseline information produced in the County's Mobility Master Plan for creating their own bicycle and pedestrian master plan that refines the recommendations made in the county plan and studies certain areas and/or issues in more detail.

### Loudoun County Public Transportation Plan

The Loudoun County Public Transportation Study, completed in May 2002, sets forth a financially feasible transit improvement program to be implemented over the next five to ten years. Recommendations developed for this study support the current and near-term development patterns envisioned for the county and the associated travel demands of this rapidly urbanizing suburban jurisdiction. There are currently two public transit providers operating service within Loudoun County – the Virginia Regional Transportation Association (VRTA) and the county-managed commuter bus service. VRTA is responsible for operating the fixed-route/fixed-schedule system serving the Town of Leesburg with service radiating from the transit transfer center located at the Loudoun County Government Center. The commuter bus service, which predominantly serves destinations in Rosslyn, Crystal City, Pentagon and Washington D.C., is very well patronized.

The study concludes that the most pressing problems to increasing transit patronage in suburban counties, such as Loudoun County, is the traditionally low-density development and suburban sprawl, a lack of transit-oriented design, and a lack of convenient pedestrian access. While it may be difficult to retrofit many communities for transit, the county is looking towards implementing changes to the comprehensive land use plan that make transit more effective. Furthermore, the County Public Transportation Study acknowledges the benefits of system integration with adjacent jurisdictions, particularly Fairfax County, to increase transit mode split for commuter trips and reduce congestion levels county-wide.

The list of improvements targeted for the study's implementation program focus on two transit markets:

- Intra-county travel between the Town of Leesburg and the Town of Sterling via Route 7 and the Dulles Greenway
- Expanded commuter bus service to regional employments centers in central and eastern Fairfax County

Together, these system improvements could provide residents in Leesburg with a viable alternative to the single occupant automobile for travel between home and work. The initial fixed-route system for intra-county travel recommends two routes improvements to serve citizens in Leesburg – Leesburg to Ashburn and Leesburg to Sterling. The transit transfer center at the Loudoun County Government Center serves as the connecting point to existing fixed-route services operating within the Town of Leesburg. New commuter bus service between Loudoun County and destinations along the Dulles Toll Road Corridor includes a new route circulating between Leesburg and points in Fairfax County. The Loudoun County Public Transportation Plan does not address deficiencies

within the current fixed-route/fixed-schedule transit system operating locally within the Town of Leesburg.

**Conclusion:** The Loudoun County Public Transportation Plan provides recommendations to enhance the already successful commuter bus service for residents in Leesburg and speaks to the need to evaluate existing land use patterns within the town and identify potential nodes for improved transit service. Together, these improvements could support increased modal split for public transit to satisfy daily travel needs.

**Recommendation:** The Town of Leesburg should continue to coordinate with Loudoun County to improve commuter bus service within the town, including the potential for new routes, increased service (i.e. headways), and new potential park-and-ride lots to focus local demand in the short term planning horizon. For the long-range planning horizon, the town should designate specific geographic areas for transit-oriented development (TOD) and encourage TOD design principles within those established nodes.

### Toll Road Plan

The Toll Road Plan was adopted by the County Board of Supervisors on June 21, 1995, and serves as the vision for land use and transportation planning in a linear corridor between the Washington Dulles Airport and the Town of Leesburg that is bisected by the Dulles Greenway Toll Road. The plan is divided into five chapters – environmental resources, water and sewer, land use and community design, transportation, and capital facilities. Policies and recommendations embedded in the plan are based on a twenty year vision for focusing new growth and development in the planning area and a fifty year vision for establishing the urban corridor with a strong bus and rail transit link between purposely planned nodes. Furthermore, the plan encourages land use planning to balance economic benefits offered by the new toll road with preserving natural features identified in the planning area. Specific policies adopted as part of the plan encourage reduced automobile pollution, concentrated development within integrated land uses, appropriate densities to support public transit, employers to provide flexible work schedules, and construction of bicycle/pedestrian travel ways between housing, employment, and retail centers.

The Dulles Greenway Toll Road extends approximately 14.5 miles from the existing Dulles Toll Road interchange at Route 28 to the Route 7/15 Bypass in Leesburg. Up to nine traditional interchanges are proposed in the current alignment for the toll road. Land uses surrounding these interchanges are reserved for serving more automobile-oriented uses that require good road access. In between interchanges, the County proposes to implement compact, concentrated development nodes that emphasize walkable neighborhoods and support bus and rail transit for higher order trips. These nodes would limit sprawl development patterns and reduce public infrastructure costs, while providing a critical mass for public transit. Successful implementation of transit-oriented development within the identified nodes will require coordination among private landowners, the Toll Road Investors Partnership II, Loudoun County, and a variety of state and federal agencies.

**Conclusion:** The Dulles Greenway Toll Road has been constructed between the Dulles Airport and Leesburg as a limited access facility. A number of interchanges have been constructed and future interchanges are planned along the 14.5 mile facility. The corridor is scheduled to begin bus rapid



transit service by 2009 with rail service beyond 2020. Loudoun County is already tasked with further studying land use within the corridor for potential rail transit nodes.

**Recommendation:** The Town of Leesburg should recognize the potential for economic development and mobility options within the Toll Road Corridor and coordinate with local, county, regional, and state regulatory counterparts to implement the improvements identified in the report and make sure that expectations for Leesburg are well represented in these decision circles. In addition, the Town should coordinate with the County and the Virginia Regional Transportation Association (VRTA) to study potential transit centers within the southern portions of the town that fall within the study area for the Toll Road Plan.

### Alternative Transportation and Land Use Activity Strategies Study (ATLAS)

The Alternative Transportation and Land Use Activity Strategies (ATLAS) Study was completed by the Transportation Coordinating Council (TCC) of Northern Virginia in coordination with the Virginia Department of Transportation (VDOT). The document reviewed for the Transportation Element Background Report is the Technical Committee Draft dated January 25, 2001. The goal of this collaborative effort is to compile a tool box of potential land use, transportation, and regional coordination solutions that might contribute towards implementing a financially responsible transportation system in Northern Virginia. For perspective, the currently adopted Northern Virginia 2020 Transportation Plan requires \$30 billion to fully implement the plan over the next 20 years, with approximately \$14 billion of these improvements still unfunded. Furthermore, the geographic area served by this plan is located within the Washington Metropolitan Statistical Area (MSA) that is classified as a “serious non-attainment” area by the U.S. Environmental Protection Agency for ground level ozone. As such, furthering the interrelationships between land use and transportation through responsible planning and coordination between state, regional, county, and local levels of government has enormous potential for reducing vehicles miles traveled and congestion levels on the roadway network.

The study was designed to take advantage of the experiences from other regions of the state and across the country that are seeking to link land use and transportation to meet air quality goals and smart growth principles. A literature review serves as the backbone of the study supplemented by national expert interviews, local expert interviews, and development of a strategy classification system and prioritization process. All of the strategies included in the ATLAS Study have already been implemented in some region of the United States. These strategies were categorized under three general headings:

- Land Use Strategies—Affect the timing and placement of development as well as look to offset the transportation impacts from new development.
- Transportation Strategies—Emphasize multi-modal transportation solutions supplemented by strategies for implementing demand management solutions, preserving future travel corridors, and offering strategic parking initiatives.
- Regional Strategies—Reinforce the need for inter-jurisdictional partnerships to implement consistent land use and transportation solutions—including funding sources, urban boundary strategies, and consistency between policy documents.

The final ATLAS Study identifies twenty-two land use strategies, eighteen transportation strategies, and six regional strategies for improving the connection between land use and transportation.

One of the most pressing hurdles towards linking land use and transportation planning is the context in which decisions are made. In the Commonwealth of Virginia, land use planning is regulated on the local level and memorialized in adopted comprehensive plans. Conversely, transportation planning in Virginia is primarily the responsibility of regional planning agencies concerned with issues impacting the county, multi-state, and/or the Washington D.C. metro geographic areas. In Leesburg, the Town has an adopted comprehensive plan to regulate land use; while transportation planning is a shared responsibility between the Northern Virginia Regional Commission (NVRC), the Metropolitan Washington Council of Governments (MWCOC), the National Capital Region Transportation Planning Board (TPB), the Northern Virginia Transportation Authority (NVRTA), the Virginia Department of Transportation (VDOT), and the Virginia Regional Transportation Association (VRTA). The disconnect between land use and transportation planning in Virginia often places local and regional government agencies at odds over single critical issues – each with their own political agendas and implementation schedules. Evidence from local interviews completed as part of the ATLAS Study reveal three initial conflicts towards cooperative planning:

- Funding Generation—localities need additional funding to implement the projects that are currently included in their local comprehensive plans and the NOVA 2020 Transportation Plan
- Inter-Jurisdictional Coordination—there is a need for more inter-jurisdictional coordination in the region both for land use planning and transportation planning. Comprehensive plans and transportation projects conflict with each other across the region when comparing one jurisdiction to its neighbor. Often times, projects approved in individual jurisdictions have negative traffic impacts on neighboring jurisdictions with no mitigation.
- Congestion Reduction—throughout the region there is a need to implement strategies that reduce congestion.

Based on the literature review and input from local professionals, the ATLAS study prioritized the forty-six initial strategies identified for linking land use and transportation planning in terms of their application to the Commonwealth of Virginia; and specifically in Northern Virginia. Several of the most popular strategies are already enabled under the Virginia Code but are not extensively used within the region. These include access management ordinances, trip reduction ordinances, and collection of impact fees for new development. Other strategies have been successfully implemented in other parts of the country although they are currently not enabled under Virginia Code. These include urban growth boundaries, transfer of development rights, and concurrency statutes. In the spirit of cooperation, strategies in the ATLAS Study that show the highest ratings for satisfying both local and regional objectives to marrying land use and transportation planning include bonus/incentive zoning, split-rate tax districts, transit-oriented development, suburban scale transit, and congestion pricing.

**Conclusion:** The final Alternative Transportation and Land Use Activity Strategies Study (ATLAS) identifies the interrelationship between land use and transportation and the lack of funding sources for transportation improvements as two enormous obstacles towards implementing a sustainable transportation network for regional travel. Several strategies towards implementing land use and transportation reform as well as for strengthening intergovernmental coordination are highlighted in

the document. Some of these strategies are slow to implement as they require reform to state legislation and/or require the sharing of power once enjoyed solely at the local or regional level. Acting on the conclusions and recommendations in the ATLAS study has the potential to truly limit congestion experienced on local roadways by attacking the problem at the source – the relationship between land use and transportation. Furthermore, innovative techniques for generating additional funding discussed in the ATLAS study are desperately needed as exemplified in the current shortfall of the Northern Virginia 2020 Transportation Plan.

**Recommendation:** There are several regulatory tools available to the Town of Leesburg that support responsible development beyond the current proffer system, especially for generating monies to implement new locally funded transportation improvements. Some of these, such as impact fees and trip reduction ordinances, are already enabled under Virginia Code and should be studied by the Town for their merits in Leesburg. Several other “battle-tested” solutions for marrying land use and transportation together have been implemented in other parts of the country and lessons learned could be applicable to municipalities in Virginia. To this end, the Town should partner with the Virginia Municipal League the High Growth Coalition and other willing participants to lobby for legislation that supports those techniques acceptable for implementation by local officials in the Town of Leesburg.

### **Town of Leesburg Downtown Traffic Study**

The Town of Leesburg commissioned a downtown traffic study that was completed February 18, 1997, to evaluate certain roadways and key intersections within the downtown and recommend potential improvements that could maintain traffic operations and circulation into a long term planning horizon (i.e. 2018). The study begins with a baseline evaluation to inventory existing road network conditions – including roadway geometrics, traffic control devices, daily and peak hour traffic volumes, parking activity, pedestrian patterns, and safety issues. Historical growth rate information and new development anticipated for the downtown was supplied by Town staff and used to factor existing traffic volumes to 1998 and 2018 for further evaluation of the transportation network.

By 2018, the existing roadway system was found to be inadequate for accommodating future year travel demands. Furthermore, traffic volumes forecasted for 2018 would severely strain many of the signalized intersections in the downtown with delay exceeding established level of service standards (i.e. LOS D). Eight circulation options were developed to address future year congestion and detailed screening identified a preferred alternative for maximizing efficiency of the roadway system given the identified historical and right-of-way constraints. The preferred alternative promotes a more efficient one-way traffic flow pattern for through traffic, but leaves the existing two-way street system mostly intact to not disrupt local travel needs and emergency vehicle access. The following improvements are recommended as part of the preferred alternative:

King Street Intersections with Market and Loudoun Streets--Peak hour operations at these two signalized intersections need to be simplified to improve the processing capacity of both intersections through:

- Prohibition of northbound left turns on King Street approaching Loudoun Street
- Prohibition of southbound left turns on King Street approaching Market Street

- Development of signal progression patterns to minimize vehicle backups on King Street between Market and Loudoun Streets

Market Street/Loudoun Street/Harrison Street One-Way Loop—A one-way counter-clockwise roadway loop should be created on the east end of downtown with the conversion of the following two-way street blocks to one-way operation:

- Market Street between East Loudoun Street and Harrison Street – westbound
- Loudoun Street between Market Street and Harrison Street – eastbound
- Harrison Street between Market Street and Loudoun Street – southbound

Realignment/Signalization of Market Street Intersection with Loudoun Street and Morven Park Road The Loudoun Street approach to West Market Street should be realigned to meet Market Street opposite Morven Park Road and signalized when signal warrants are satisfied.

Conclusion: The primary recommendation from the Town of Leesburg Downtown Traffic Study was to convert Market Street, Loudoun Street, and Harrison Street into a one-way loop through the downtown. This recommendation has been met with understandable resistance from downtown interests concerned with retail survivability and maintaining the historical context of streets in the urban core. The best “traffic engineering” solution is not always the most advantageous solution for complex problems in the downtown that must also meet satisfaction from local businesses, and in this case, local historians prior to implementation. A recent study of one-way vs. two-way street circulation patterns completed in Virginia Beach, Virginia advocated for the preservation of a two-way street system for supporting surviving retail and promoting further redevelopment within transportation corridors.

Recommendation: The Town of Leesburg should reevaluate the recommendations in the Downtown Traffic Study against a broader set of criteria including traffic flow, economic vitality, maintaining the historical context of downtown, and design feasibility. One solution advocated for congestion at the intersection of Loudoun Street and Morven Park is a roundabout. If deemed appropriate, this traffic control device could provide more efficient use of the intersection and provide an opportunity for beautifying the intersection as a gateway to the downtown. A Roundabout Feasibility and Conceptual Design Study could be considered as a future CIP.

### Town of Leesburg Residential Traffic Management Plan

Like many places in the U.S., the Town of Leesburg is experiencing intolerable levels of traffic intrusion and excessive travel speeds (both real and perceived) on residential streets throughout the community. Historically, the Town Council dealt with requests for traffic calming on an ad hoc basis; however in January 2000 a Residential Traffic Task Force was appointed by the Council to develop a residential traffic management program that provides a systematic approach for evaluating certain traffic calming requests. The conclusions and recommendations from this collaborative effort are provided in the September 2000 Residential Traffic Management Plan. The report advocates for a traffic calming management plan that uses a systematic approach to resolving residential traffic complaints, assures that requests are judged in accordance with adopted criteria, promotes uniformity and predictability of outcomes, and increases confidence for fairness in the process and individual treatment. Traffic management requests are to be evaluated using a committee of town staff and citizens. Recommendations from the Residential Traffic Management

Plan would be implemented through amendments to the Leesburg Town Plan and accompanying ordinances. Furthermore, town officials are urged to lobby state legislatures to change laws and policies that prohibit the town's ability to achieve its transportation goals.

**Conclusion:** Since completion of the traffic calming management plan, a seven member Standing Residential Traffic Committee, supplemented by Town staff, has been formed to address traffic calming issues.

**Recommendation:** Continue to refer all requests for traffic calming on residential streets in Leesburg to the Standing Residential Traffic Committee.

### Leesburg Comprehensive 20-Year Parks, Recreation, Open Space, Trails, and Greenways Master Plan

The Town of Leesburg Department of Parks and Recreation completed a Comprehensive 20-Year Parks, Recreation, Open Space, Trails, and Greenways Master Plan in November 2002 to memorialize a vision for the Town that preserves open space, enhance the community's character, and continue to increase park and recreation amenities consistent with forecasted population growth. This plan is the first comprehensive parks and open space plan to be undertaken by the Town of Leesburg, and in many ways given the current growth climate, it can be considered a "last chance" plan for preserving open space in the area. The master plan is divided into eight elements – open space opportunities, trails, greenways, stream valley protection, historic preservation, active recreation sites, gateway/streetscape improvements, and recreation program expansion.

The "trails" element of the master plan builds upon the recommendations in the 1993 Greenways and Trails Master Plan and the 1997 Leesburg Town Plan with a number of added trails and greenways. The basic concept for the trail network is the development of a loop trail around town that would be bisected by the Washington and Old Dominion (W&OD) Rail-Trail. The loop trail would connect points both inside and outside of Leesburg via shorter interconnected trails. Trails originally proposed in the 1993 and 1997 plans radiate from the W&OD Trail to points in central and north Leesburg. The current master plan primarily targets improvements in southern Leesburg as one means to complement the existing and previously proposed networks. Together, this comprehensive trail network is anticipated to serve local pedestrian and bicycle traffic within Leesburg and circulate visiting traffic from the W&OD Trail among local destinations.

**Conclusion:** The trail system advocated for in the parks master plan does not acknowledge the companion street system and on-street bicycle facilities for accommodating non-motorized travel within the town. The system is comprehensive and would provide a "model" network for a town the size of Leesburg. However, the scarcity of funding for these types of improvements will be a significant hurdle towards implementation. The New Town Plan needs to recognize the environment and linkages fostered by the trail system advocated for in the parks master plan for improving conditions for *recreational* users.

**Recommendation:** The Town needs to also remain committed towards improving the bicycle environment within the public rights-of-way to provide alternatives to the single occupant automobile for shorter trips. An improvement to a more direct route system that serves the front

door of homes and businesses is believed to better serve the town's desire to replace certain automobile trips with bicycle trips.

### Town of Leesburg Comprehensive Parking Management Study

The Town of Leesburg commissioned a comprehensive parking study for the downtown area that was completed in October 2003. The report includes an assessment of existing and future parking conditions as well as recommendations for improving parking operation and management within the town and an implementation program to guide local decision makers. In 2003, the downtown study area provided 4,040 total off-street parking spaces (88% private spaces & 12% public spaces) supplemented by 724 on-street parking spaces. The authors of the report acknowledge that the historic downtown, formed long before the dominance of the single occupant automobile culture, can sometimes make providing on-site parking physically difficult, if not impossible. However, parking inventories completed during the weekday peak hour (1:00 p.m.) found that only 66% of the total off-street parking spaces and 52% of the total on-street parking spaces were being utilized—meaning that the Town of Leesburg does not currently experience a public or private parking deficit. Nonetheless, localized parking shortages may still be perceived within the downtown since public parking surplus is not located where people wish most to park. In addition, the consultant that performed the inventory noted that many of the private restricted spaces in the downtown were unutilized during the peak daytime period as a function of the land use they served. For example, parking lots that serve restaurants in the downtown sometime lie dormant and unavailable to would-be parkers due to hours of operation, etc. in the weekday peak hour.

The Comprehensive Parking Management Study also examines development anticipated in the future to determine whether sufficient parking supply could support anticipated development and redevelopment in the downtown. Future year conditions are evaluated in the short-term (0-5 years), mid-term (5-10 years), and long-term (10+ year) horizons. Based on assumed development, the existing parking supply plus additional off-street spaces anticipated to accompany build out of the individual projects should be sufficient to support development in all three planning horizons; although some local parking deficiencies may occur on certain blocks as documented in the study.

The study also evaluates the existing parking and operations management within the town and found it to be fragmented, without much interaction between departments that historically make up a cohesive parking system. A new comprehensive “parking division” is recommended in place of the existing structure that would employ a parking manager hired to be responsible for all aspects of parking operations, including enforcement, maintenance, revenue collection, permitting, and planning. In addition, the Comprehensive Parking Management Study recommends higher hourly rates for metered parking and public garages operating within the downtown. The increased revenue from these improvements could be combined with other funding sources to let the newly created parking division operate under an “enterprise fund” model whereby cost and expenses are covered by operating revenues. All of the necessary steps for acting on the plans, programs, and physical improvements recommended in the study are summarized in a twenty-four month implementation program provided at the end of the document.

**Conclusion:** The Comprehensive Parking Management Study concludes that the Town of Leesburg does not have an existing or anticipated parking deficient for the downtown study area. Several operational and organizational solutions are suggested to maximize the downtown parking supply.

**Recommendation:** The Town of Leesburg has begun implementing the recommendations in the parking study.

## Leesburg Executive Airport 2005 Draft Master Plan Update

The 2005 Master Plan Update examines major components of the currently adopted 1990 Master Plan Update to re-establish baseline conditions, project expansion needs, and identify whether additional property would be required beyond the existing boundaries of the airport to accommodate anticipated aviation activities and meet safety mandates set forth by the Federal Aviation Administration (FAA). Recommendations established in the draft master plan are set up to coincide with short-term (i.e. 2006-2010), mid-term (i.e. 2015), and long-term (i.e. 2025) planning horizons. The most recent draft of the master plan update does identify one surface transportation project that could enhance access to the airport from the Chantilly/Centreville region. It includes widening of State Route 606/Old Ox Road from two lanes to four lanes and signalization of the intersection with Evergreen Mills Road. The master plan is following a thirty-eight month planning process that began in October 2003. The final report is anticipated for adoption in November 2006.

**Conclusion:** The 2005 Airport Master Plan Update is still under development. The final report is expected in November 2006.

**Recommendation:** Reasonable draft recommendations from the 2005 Airport Master Plan Update should be incorporated and/or referenced into the new Town Plan to ensure that land use and transportation policies incorporated in the Transportation Element consider potential impacts to, and the unique needs of, the Leesburg Executive Airport.

## Existing Conditions, Trends, and Changes

The Town of Leesburg completed its 1997 Town Plan based on the best available data and forecasted trends available at that time. Since adoption of the plan, the town and its environs have continued to develop within the region and new research and/or policy direction established at the local, county, region, and state levels of government have impacted the vision memorialized in the previous Town Plan. This section of the Background Report re-establishes the baseline conditions for 2004 to assess progress towards meeting adopted goals and objectives outlined in the previous transportation element of the town plan and re-examines local, regional, and national trends in transportation planning to identify opportunities for the Town of Leesburg to foster responsible growth and development.

Information reported for the Town of Leesburg is organized under three general headings – the regional context, existing conditions and trends, and responsible development. Relevant information presented in this section of the report is based solely on professionally accepted secondary data sources, professional experiences, and a national literature review.

## The Regional Context

The Town of Leesburg is located near the center of Loudoun County on the western fringe of the greater Washington, D.C. metropolitan area. As the seat of county government and the center of trade, a mutual interdependence between the town and the county has developed over the decades.

The actions of the town and those of the county significantly impact all facets of life in and around Leesburg and recent intergovernmental coordination of town and county planning has grown increasingly important. Regionally, the town lies within the jurisdiction of the Washington Metropolitan Statistical Area (MSA) and the Northern Virginia Regional Commission. As a part of this larger region, local residents and business owners rely heavily on the interrelationships between Leesburg and points in Fairfax County, Prince William County, and the State of Maryland for commerce and trade. The physical connection of these economic centers is the transportation system, and maintaining convenient access between these destinations is paramount to the growth of Leesburg and the region.

The location of Leesburg within a major metropolitan area makes it essential to examine transportation needs within the regional context. For perspective, the ATLAS study summarized earlier in this report identified up to eight regulatory agencies that may influence transportation planning decisions in Leesburg, including Loudoun County, the Northern Virginia Regional Commission (NVRC), the Metropolitan Washington Council of Governments (MWCOC), the National Capital Region Transportation Planning Board (TPB), the Northern Virginia Transportation Authority (NVTA), the Virginia Department of Transportation (VDOT), the Virginia Regional Transportation Association (VRTA), and the Federal Aviation Administration (FAA). Together, these agencies have the professional and funding resources to help Leesburg implement sustainable transportation solutions for addressing long term needs; however routine coordination between these agencies must be maintained to foster continued partnerships for a common goal. This is especially important in Leesburg as it tries to be on the forefront of livable, multi-modal design solutions for addressing rising congestion levels on major roadways.

The Transportation Element for the New Town Plan focuses on the interdependent transportation systems within the town's corporate limits; however it also recognizes that they function as part of a larger regional network serving the area. To this end, the Town of Leesburg is committed to working with regional transportation authorities on implementing sustainable solutions (i.e. mobility options) identified throughout the Transportation Background Report for reducing vehicle miles traveled and congestion levels on the major roadway network. While transportation solutions will be critical, one of the town's greatest contributions towards improving the transportation system will be to implement and coordinate responsible land use planning in the New Town Plan with other towns in Loudoun County and with local, county, regional, and state transportation agencies.

## Existing Conditions and Trends

The following paragraphs summarize current conditions within the local transportation system on a multi-modal basis and recent trends in transportation planning that should be considered by the Town of Leesburg for improving the transportation system into the next twenty years. Items addressed in this section of the background report include:

- The Transportation Network
- Functional Classification
- Level of Service
- Evaluation of Travel Modes
- Transit Oriented Development
- Responsible Development



## The Transportation Network

The existing transportation network is comprised of public and private streets and an off-street multi-use trail system. The street system in the heart of Leesburg is a grid network of fairly narrow streets pre-dating the automobile era. This grid becomes a network of circumferential and radial streets outside of the downtown that allow through traffic to by-pass the downtown area and reduce traffic congestion downtown. The circumferential and radial networks have been partially implemented. The two existing components of the circumferential street network are Catocin Circle and the Route 7 and Route 15 Bypass. The radial street network is comprised of Route 7, Route 15, and the Dulles Greenway. With the exception of shared-used trails throughout town and regional trails such as the Washington & Old Dominion Rail-Trail, the transportation system is primarily focused on the street corridors.

In the downtown area, the grid street pattern (straight streets forming blocks of land) has a human scale that encourages pedestrian use and contributes to the ambience of the Historic District. These streets generally provide one travel lane in each direction, have narrow brick-paved sidewalks on both sides of the street, and on-street parking is generally provided along only one side of the street. While passed over beginning in the late 1940s, the grid street pattern is making a come back once again in neo-traditional town planning. The grid pattern is credited with dispersing traffic more evenly throughout the streets compared to a non-grid street pattern that concentrates traffic on a limited number of roads. In addition, grid streets have been heralded as the preferred transportation network for promoting multi-modal transportation options. In the 1997 Town Plan, local officials concluded that the grid street pattern would be encouraged in new development as well as infill development and redevelopment within the Old and Historic Districts. Heading out of the downtown core, the urban form of Leesburg changes dramatically on both the south and east sides of town (approaching Catocin Circle) where the roadways are wider, the land use is more suburban, and concrete sidewalks are provided on both sides of the street.

The two circumferential roads in the transportation network, Catocin Circle and the Route 7/15 Bypass, continue to serve by-pass traffic for the downtown; however increased access to adjoining business sites afforded on both facilities and more intersections constructed along the two roadways have hampered their ability to efficiently move traffic to their planned functionality. Furthermore, Catocin Circle is no longer planned to encircle the downtown as a bypass alternative after the acceptance of the gift of 142 acres that became Ida Lee Park. A third circumferential road, Battlefield Parkway, is planned near the approximate vicinity of Route 654 and Crosstrail Boulevard, a fourth, is planned near Cochran Mill Road.

The radial streets in the transportation network, namely Route 7, Route 15, and the Dulles Greenway, connect the two existing circumferential roads with the rest of the region. Route 7, east of town, is intended to function as a limited access facility in the future.

The Town of Leesburg monitors and maintains most of the traffic signal equipment within town. The only exceptions occur on Route 7 east of downtown and the Route 7/15 Bypasses where the Virginia Department of Transportation maintains jurisdiction. Cycle lengths are kept reasonably short (60 to 90 seconds) in the downtown, operating on two to three-phase operations, to allow for convenient pedestrian wait times to cross local streets. Cycle lengths and phasing plans outside of

the downtown accommodate the pedestrian; however they are more preoccupied with processing vehicles through these busy intersections.

## Functional Classification

The classification of streets into several “functional” categories aids in communication among policy makers, planners, engineers, and citizens for expanding the transportation system. The functional classification system groups streets according to the land use served (or to be served) and provides a general designation of the type of traffic each street is intended to serve. The street functional classification system primarily defines the street in terms of design and operational characteristics for the movement of vehicles. Typically, the functional classification for streets within the municipalities across the United States, including Leesburg, can be summarized as follows:

- Higher order streets function as mobility corridors with little or no role in providing direct access to land and are classified as freeways, expressways, and access-controlled facilities.
- Middle order streets function as arterials or thoroughfares with the primary role of providing mobility and the secondary role of providing access. One trend in traffic engineering nationwide is to pursue access management policies for arterials to minimize access to adjacent properties to improve mobility.
- Lower middle order streets in the conventional hierarchy are referred to as collector streets. These function mainly for access but also provide mobility through neighborhoods to connect with arterials. This dual function creates considerable debate in American communities about the safety of children and pets as well as the desire for livable neighborhoods even on collector streets.
- Lower order streets are called local or neighborhood streets and serve access needs for residences or other neighborhood destinations.

Two major considerations for classifying arterials from neighborhood streets are access and mobility. The primary function of local or neighborhood streets is to provide access. These streets are intended to serve localized areas or neighborhoods, including local commercial and mix-used land uses. Local streets are not intended for use by through traffic. The primary function of arterials is mobility. Limiting access points (intersections and driveways) on arterials enhances mobility. Too much mobility at high speeds limits access by pedestrians and bicyclists. The arterial is designed with the intent to carry more traffic than is generated within its corridor. Arterials serve a range of travel distances and traffic volumes.

The existing public street network in the Town of Leesburg is divided into several functional classifications, including:

- Limited Access
- Major Arterial
- Minor Arterial
- Thorough Collector
- Local Collector
- Local Street

Map 1 illustrates the function classification for existing public streets serving Leesburg.

In accordance with these functional classifications, the Town sets forth general design criteria for each category to establish expectations for the configuration of a particular roadway – including number of travel lanes, varying access restrictions, target capacity, posted speed limit, ultimate right-of-way, and land use considerations. Figure 3 summarizes the general standards assumed by the Town for each of the individual functional street classifications. Town staff reports that this table is very beneficial to the planning process for new roadway facilities because it creates predictability for the design characteristics for a particular functional classification and fosters a general understanding for town residents and applicants of new development alike to follow when discussing potential roadway projects and their impacts to the surrounding environment.

When addressing the functional classification of streets in Leesburg, Town officials may consider building on what other progressive communities in Virginia are achieving, that is, overlaying a street typology on its traditional functional classification system. While the traditional system defines design and operational characteristics primarily for the movement of vehicles, overlay typologies relate the street to the land uses served and their function for motorists, pedestrians, bicyclists, and transit users. Typologies prioritize design elements of the “street realm” that exists within the public right-of-way. Furthermore, streets would not only serve motor vehicles, but instead also serve travelers of every mode that are integrated into adjacent land uses. In this regard, the Town of Leesburg would be creating complete streets.

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MAP #1 – FUNCTIONAL CLASSIFICATION (EXISTING)

**Figure 3: Functional Street Classifications**

Criteria	Limited Access	Major Arterial	Minor Arterial	Through Collector	Local Collector	Local Street
Overall Function	Carries regional through traffic	Carries a combination of regional and local traffic	Primarily located within town serving between residential and commercial land uses	Connects local traffic between Local Collectors and Arterial roadways	Connects Local Streets with Through Collectors and provides access to adjoining properties.	Provides direct access to adjoining properties; usually occur in residential neighborhoods
General Capacities (Daily)	Designated in Town Plan			> 2,000 ADT	1,000 – 1,999 ADT	0 – 999 ADT
ROW Considerations	Follow VDOT standards	120 feet	90 feet	70-90 feet	60-70 feet	50 feet*
Intersection/Curb Cuts	None. These facilities are controlled to limited access per VDOT	Limited Intersections. Where located, shared curb cuts are desirable	Minimal Intersections. Where located, shared curb cuts are desirable.	No residential driveways	Driveway access permitted	Driveway access permitted
On-Street Parking	No	No	Limited	Limited	Yes	Yes
Building Setbacks	Building setbacks will be greater along roads with higher functional classifications in accordance with provisions in Town Ordinance					
Landscape Verge	Yes (40-foot buffer)	Yes (30-foot buffer)	Yes (30-foot buffer)	Yes (20-foot buffer)	Yes (10-foot buffer)	None
Landscape Median	Yes	Yes	Yes	No	No	No
Street Trees	Yes	Yes	Yes	Yes	Yes	Yes
Transit Considerations	Yes (w/considerations)	Yes	Yes	Yes	No	No
Bicycle Facilities	Off-Road Shared Use Path, as permitted by state statutes	Off-Road Shared Use Path	On-Road Bicycle Accommodation and Off-Road Shared Use Path and Sidewalk		On-Road Bicycle Accommodation and Sidewalks	
Pedestrian Facilities						

\* Subject to revision based on new VDOT Subdivision Streets Guidelines effective January 1, 2005.

In developing the plans for selected streets, applying principles of context sensitive design or neo-traditional town planning is best done with a combination of measures that act together to achieve the desired affects:

- improving pedestrian safety and access
- providing safe bicycle access
- encouraging use of transit
- allowing a slower but steady progression of traffic

Implementing a combination of these measures leads to design standards that involve widths of travel lanes, curb extensions, curb return radii, parking lanes, bicycle lanes, sidewalks, enhanced crosswalks, landscaping, streetscape, medians, and pedestrian refuge islands. These could be incorporated in the Design and Construction Standards Manual to support innovative land use planning in Leesburg; such as transit oriented development or neo-traditional town planning.

**Level of Service**

Level of service (LOS) is a performance-based measure that evaluates the operational conditions for a particular public facility or service. In transportation, this measurement is typically performed for roadways carrying vehicle traffic and it characterizes operational conditions within a traffic stream and the perception of these conditions for the motorist and passengers. The presentation of level of service typically follows a letter system (traditionally A through F) whereby LOS A demonstrates the best level of service and LOS F demonstrates the poorest level of service. Descriptions of individual levels of service traditionally represent roadway conditions in terms of speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Level of service for transportation can be measured for either links within a roadway or for individual intersections. LOS can also be measured for different time periods of the day including the traditional a.m. peak period (7:00 a.m. – 9:00 a.m.), midday peak period (11:00 – 1:00), p.m. peak period (4:00 p.m. – 6:00 p.m.) or daily periods.

Traditionally, a governmental agency responsible for roadways within their jurisdiction will set a level of service standard to evaluate existing performance and target proposed improvements. The LOS standard is also used by government agencies to review impacts from development applications and determine a set of improvements required to maintain a certain level of service standard after build out of the development. The Town of Leesburg maintains a Level of Service C standard for signalized and unsignalized intersections within the town to evaluate new development applications for an anticipated build out year and a Level of Service D standard for signalized and unsignalized intersections to evaluate conditions associated with the new development application at the projected build out plus twenty years. The town does not maintain a level of service standard for links within the roadway network.

Level of service measured for existing conditions (i.e. 2000) on major roadways within the Town of Leesburg is summarized in Figure 4 and illustrated in Map 2. While this information is useful for evaluating the transportation system, there is a difference between these values and the standards maintained by the town for evaluating development applications. Specifically, the level of service reported in the Town Plan is a roadway link analysis based on average daily conditions while the review criteria set forth in the Town Ordinance for evaluation of development applications requires measurement for level of service at intersections during the traditional a.m. and p.m. peak periods. Furthermore, there is a difference between the Town's methodology for reviewing development applications and the current table for estimating proffers to mitigate off-site impacts to the transportation system. In this case, the methodology for traffic impact studies continues to measure conditions at intersections in the traditional a.m. and p.m. peak periods and the proffer table uses daily trips to determine unit costs. In both instances, the difference between the existing conditions analysis and proffer table in the Town Plan with the current system for evaluating traffic impacts from development needs to be rectified. This is most appropriately done by implementing a monitoring system for the town that maintains traffic data and signal timing information to perform independent analyses of conditions for the transportation network. This system would be focused on short-term solutions, unlike a transportation model, which would be used to look at more long-range options. This system would allow for more consistency between traffic studies submitted by private developers since existing traffic would be provided from the town's database. The existing proffer table could be easily converted to p.m. peak hour trip generation for measuring unit costs.

The end result would be a system that ensures that costs to developers are commensurate with the impacts their developments will cause.

As mentioned earlier, the Town of Leesburg maintains a graduated LOS 'C' and 'D' standards for evaluating development applications. The commitment to a Level of Service C standard is considered by some to be unrealistic for particular incorporated areas in Virginia as vehicle miles travel continue to increase and municipal funding shortfalls limit building many major new roadway improvements. As many communities can attest, a high-level of service standard established at the local level is often eroded away by more regional, through traffic that contributes significantly to the demand of the facility without being held accountable for negatively impacting available capacity on the roadway network. In this way, Leesburg could potentially be forced to program improvements for the major roadway network that accommodate commuting trips through town to maintain acceptable level of service standards.

The Transportation Element Background Report stops short of recommending new level of service standards for the Town of Leesburg. Instead, it points to this standard as a potential issue for further study given the potential financial and physical constraints of the town that should be evaluated further before making changes to the current system. The town should review the current system for reporting transportation conditions and reviewing potential development applications prior to considering any policy changes for level of service.

## Evaluation of Travel Modes

The Transportation Background Report inventories existing conditions for the following travel modes: automobile, public transit (bus and rail), water ferry, aviation, pedestrian, and bicycle.

**Automobile:** The private automobile is the most widely used form of transportation within Leesburg and its impacts on the urban environment are evident everywhere. Outside of the downtown, the town's transportation system is predicated almost solely on the needs of the automobile, and improvements to the transportation system over the last forty years have been focused almost exclusively on reinforcing the dominance of the automobile as the king of transportation. Today, the downtown grid and circumferential and radial networks radiating from the urban core continue to provide access and mobility for residents and visitors to the area; however the observed level of service on many of these roadways is approaching unacceptable levels in Leesburg. Additionally, the numbers of accidents on Leesburg's roads has increased in recent years.

Traffic accidents in and around Leesburg increased from 1,176 in 2002 to 1,246 in 2003. These included a 17.1% increase in personal injury-related accidents, as well as two fatalities. Accidents involving pedestrians decreased slightly from 9 to 8. In 2003, the highest number of accidents occurred in the immediate vicinity of the following intersections:

- Sycolin Road at Leesburg Bypass (33)
- East Market Street at Leesburg Bypass (24)
- East Market Street at Rivercreek Parkway (23)
- South King Street at Leesburg Bypass (22)

These intersections are all maintained by the Virginia Department of Transportation and have been consistently problematic over the past several years. There were also 473 non-reportable accidents

in Leesburg during 2003. Causes were most commonly attributed to driver inattention, failure to yield the right-of-way and following too closely.

**Figure 4: Existing Level of Service Measurement**

Roadway	Segment		No. of Lanes	Adopted LOS (2030 Standard)	Average Daily Capacity	2003 Volume (Average Daily)	V/C Ratio	Current LOS
	From	To						
RT 15	Oatlands Lane	VA Route 704	2	D	15,500	10,000*	0.65	C
	VA Route 704	Rt 7/15 Bypass	2-4	D	24,850	15,000	0.60	C
	Rt 7/15 Bypass	Catoctin Circle	4	D	30,600	31,330	1.02	F
	Catoctin Circle	Market Street	2-4	D	14,500	10,000	0.70	D
	Market Street	Rt 15 Bypass	2	D	15,500	8,400	0.54	C
	Rt 15 Bypass	Whites Ferry Road	2-4	D	24,850	23,000*	0.93	E
Evergreen Mills Rd	Masons Lane	South King Street	2	D	16,275	10,600	0.65	C
Dulles Greenway	Tolbert Lane	Rt 7/15 Bypass	4	D	62,200	35,000	0.56	C
Sycolin Road	Tolbert Lane	Rt 7/15 Bypass	2	D	16,275	10,000	0.61	C
VA Route 7	Goose Creek	Rt 7 Bypass	6	D	51,400	52,000*	1.01	F
	Rt 7 Bypass	Catoctin Circle	4	D	30,600	33,463	1.09	F
	Catoctin Circle	King Street	2-4	D	14,500	18,000	1.24	F
	King Street	Ayr Street	2	D	14,500	9,000	0.62	C
	Ayr Street	Rt 7 Bypass	2	D	14,500	12,000	0.83	D
	W. Market Street	VA Route 9	4	D	34,200	42,000*	1.23	F
	VA Route 9	Hamilton Sta Road	4	D	34,200	28,000*	0.82	D
VA Route 9	Hamilton Sta Road	VA Route 7	2	D	16,275	14,000*	0.86	D
Rt 7 Bypass	W. Market Street	S. King Street	4	D	34,200	43,438	1.27	F
Rt 7/15 Bypass	S. King Street	Dulles Greenway	4-6	D	42,800	50,368	1.18	F
	Dulles Greenway	E. Market Street	4	D	34,200	50,368	1.47	F
Rt 15 Bypass	E. Market Street	Edwards Ferry Rd.	4	D	34,200	53,998	1.58	F
	Edwards Ferry Rd.	N King Street	4	D	34,200	25,000	0.73	D
Dry Mill Rd	Catoctin Circle	VA Route 9	2	D	14,500	2,400	0.17	A
Catoctin Circle	W. Market Street	Dry Mill Rd	2	D	14,500	9,686	0.67	C
	Dry Mill Rd	S. King Street	2-4	D	22,550	9,686	0.43	B
	S. King Street	E. Market Street	4	D	30,600	19,000	0.62	C

\* Year 2000 average daily traffic volumes

The Town of Leesburg does not maintain a level of service standard for roadway links within the town as officials prefer to instead measure level of service based on intersection performance. Given the data limitations for this report, the Transportation Element Background Report is unable to report level of service in a format that provides for convenient comparison to the methodology used by Town staff for reviewing development applications (i.e. peak period, intersection conditions). The methodology employed by staff is more refined than a generalized link analysis and it is widely assumed by transportation professionals to be more telling of actual conditions within the transportation system. As a general rule, when intersections perform at their acceptable level of service standard the adjacent roadway links are assumed to be operating the same or better than the reported level of service. Therefore, the level of service standard assumed to perform the



generalized link analysis is LOS D; consistent with the Town's standard for reviewing development applications in the long range planning (i.e. 20 years).

The Transportation Element Background Report evaluates automobile level of service for major roadways within the town using a generalized roadway link analysis performed with average daily traffic volumes presented to Town Council on September 9, 2002, by the Virginia Department of Transportation. Level of service for major roadways within the town was measured using volume-to-capacity (v/c) ratios and generalized roadway capacities reported in the national literature for the six corresponding level of service designations. This methodology is generally accepted as a first-cut approach for measuring level of service.

Based on the above methodology, 10 of the 25 roadway links included in this analysis are currently operating below their theoretical Level of Service D standard. Four additional links are operating at the theoretical adopted level of service standard. Figure 4 presents average daily traffic volumes (ADT) and level of service measurements for major roadways within Leesburg. Map 2 illustrates the existing (i.e. 2000) average annual daily traffic (ADT) level of service calculated for major roadways within Leesburg. Remembering that level of service is often reported higher for roadway links than at intersections, the conclusions from intersection analyses under peak hour conditions are anticipated to be worse.

**Public Transit:** Public transportation is increasingly being recognized by local and regional governments as an important tool to address increasing traffic congestion. Commuters in high-density areas also realize the benefits of alternative modes of transportation which result in significant savings in cost and time and reduction in stress associated with traffic congestion. Public transportation is being viewed as a popular short and intermediate term solution for addressing rising congestion levels on major roadways in both the professional and political arena. Municipalities that have been successful raising patronage for public transportation have provided a well connected web of regional and local transit network thus presenting transit as a reliable mode. The presence of supportive pedestrian and bicycle network is also very important for the success of transit since every transit trip begins and ends with walking. Public transportation has various advantages including:

- Relieve traffic congestion from the roadways
- Provide a viable commuting option to mobility-deprived citizens
- Improve overall health of the citizens by increasing exercise and reducing stress associated with driving
- Creating a balanced transportation system by providing mobility options for people through multiple modes of transportation

Local and regional governments could present transit as a dependable commuting option to employees and customers by delivering them to work and home on a regular schedule. The Town of Leesburg in cooperation with Loudoun County Transit currently offers the following public transportation services to its residents. The Town should further coordinate with the County in expanding and tailoring these services based on citizen input from the public workshops.

“Local Bus Service”

The Virginia Regional Transportation Association (VRTA) currently operates three fixed-route, fixed-schedule bus routes within the Town of Leesburg. The alignment for each of the three VRTA routes operating within Leesburg is illustrated in Map 3. Service is provided Monday through Friday, on 30-minute headways, between the hours of 7:00 a.m. and 6:00 p.m. All routes operate on a pulsating system, whereby service radiates from the Loudoun County Government Center and all patrons wishing to transfer to another route must first come back to the transit hub. The current fare structure collects fifty cents per trip for two of the routes and offers free service for third route. Transfers are free among the three fixed-routes.

Service is free to employees of Loudoun County and the Town of Leesburg and to kids under ten years of age when accompanying a fare-paying adult. Senior citizens are offered free service on Thursdays. The Virginia Regional Transportation Association is a not-for-profit organization and applies to the local jurisdictions that it provides service to for local funding to continue transit operations and/or expand service. The Town's current contribution for VRTA service is approximately \$20,000 per year.

As mentioned above, the peak hour headways for all three routes operated by VRTA is 30 minutes. Therefore, the combined peak hour capacity for the transit service is 240 passengers, assuming a seating plus standing capacity of 45 passengers per vehicle for fixed-route service and 30 passengers per vehicle for trolley service. Potential new riders could be drawn to the service with targeted marketing campaigns, improvements to bicycle/pedestrian connections between transit stops and final destinations, and as congestion on local roadways continues to rise.

**"Commuter Bus Service":** In addition to local transit service, residents and visitors to Leesburg have access to commuter bus service for long distance travel between the county seat and points in Loudoun County, Fairfax County, and the Washington, D.C. metropolitan area. The county-managed bus service is very well patronized. The commuter bus fleet currently includes standard, full-size buses with a maximum capacity of 69 (38 sitting + 31 standing) plus nineteen 55-passenger coach buses equipped with restroom facilities. The following commuter bus routes provide access to the Town of Leesburg:

- 7 to 7 on 7 – This route starts at the Loudoun County Government Center and runs in the southeast direction through Edwards Ferry Road on Ft. Evans Road and Riverside Parkway. Loudoun County Government Center is also a transfer station for routes to and from Leesburg fixed route service. This route also services Loudoun Hospital, George Washington University and Dulles Town Center. The final stop of this route is at the Town Center Plaza, also a transfer station, located at Dranesville Road and Leesburg Pike. The fares on this route are fifty cents per trip.
- Leesburg Airport Shuttle – This route services the Leesburg Executive Airport/Godfrey Field area. The service begins at Beauregard Drive & Fortress Circle East and ends at Santmyer Drive & McLeary Square. The route also serves Lawson Road, Kincaid Boulevard and Tavistock Drive and also serves the park and ride lot on Sycolin Road.
- Loudoun County to Rosslyn, Pentagon, Washington, D.C. – This service runs from Purcellville, Hamilton, Leesburg and Dulles North Transit Center to destinations at West Falls Church Metro, Rosslyn, the Pentagon and Washington, DC. This service runs on weekdays only and has higher fares (\$50.00 for 10 one-way tickets or \$6.00 per ticket) compared to the other service routes. The stop locations in Leesburg are on Miller Drive and the Leesburg Airpark on Sycolin Drive.

- Purcellville Connector – This route provides bus service from Leesburg to Purcellville. The service leaves from the Loudoun County Government Center and ends at the Loudoun Valley Community Center in Purcellville. The morning service runs from 8:00 a.m. to 11:30 a.m. and the afternoon service runs from 12:00 p.m. to 6:30 p.m. The fares on this route are also fifty cents per trip.

Insert Map 3 – Existing Bus Fixed-Route, Fixed-Schedule Routes

- Inclement Weather Plan – The commuter service also consists of an inclement weather bus service from Washington DC, the Pentagon and Rosslyn to Dulles North, Leesburg, Hamilton and Purcellville. This service has two departure locations within Leesburg that is destined for Rosslyn and the District, as well as West Falls Church Railway Station. This service does not operate when driving conditions are determined to be unsafe. The afternoon departures begin from 3:10 p.m. and ends at 7:15 p.m. For limited service status, the morning departures at Leesburg begins at 6:45 a.m. and consists of 6 runs for Rosslyn and the District; and at 6:55 a.m. and consist of 4 runs for West Falls Church. Under 2-hour delayed service status the service begins at 7:a.m. and for 3-hour delayed service status the service begins at 8:a.m. Limited service fares to West Falls Church is \$ 1 per trip. Limited service to Rosslyn District and all delayed services follow the normal fare structure.
- Town of Leesburg Routes – As mentioned earlier there are three fixed bus routes operated within the Town of Leesburg and provide connections to the other bus services like the 7 to 7 on 7 and the Purcellville Connector.
- Ashburn Farms Connector - This service runs from the Ashburn Shopping Plaza to the Loudoun Hospital Monday through Friday only, between the hours of 7:26 AM to 6:26 PM. In addition to stops at the Ashburn Shopping Plaza and the Loudoun Hospital, this route has stops at Ashburn Commons, Parkhurst Plaza, Timber Ridge Apartments, Professional Plaza, Ashburn Library, and Stone Bridge High School. Service is provided at a fare of \$ 0.50 per trip. Transfer to the 7 to 7 on 7 service can be made at the Loudoun Hospital stop.
- Ashburn Village Connector - This service runs from Ashburn Village to Wegmans Monday through Friday only, between the hours of 7:10 AM to 6:30 PM. The Ashburn Village Connector makes stops Courtland Drive and Afton Terrace, Ashburn Village Visitor Center, Fincastle Drive and Florence Terrace, Fincastle Drive and Chloe Terrace, Ashburn Shopping Plaza, Wingler House, Beaumeade Circle, and Wegmans. Service is provided at a fare of \$ 0.50 per trip. Transfer to the Dulles 2 Dulles Connector Bus service can be made at the Wegmans stop.

**“Additional Services Provided by Commuter Bus Service”:** Loudoun County commuter bus service passengers could also register to receive real time messages like e-mails or text messages about arrivals and detours of buses in case of delays caused by weather, traffic, road closures, etc., Commuters also have an option of having commuter bus service schedules delivered to their cell phones or handheld computer device. These services help in building the image of public transit as a reliable transportation mode among its users.

**“Guaranteed Ride Home (GRH) Program”:** Loudoun County encourages people to use alternative modes of transportation, like transit, biking, carpool or vanpool, for their commute to work. The commuter bus service patronizes a program called GRH program that provides commuters who regularly use alternate modes of transportation with a reliable ride home in case of unexpected emergencies. Under this program commuters will be able to use GRH to get home for unexpected personal emergencies or unscheduled delay at work for up to four times a year. This service is provided for free to commuters that register for this program. This program encourages commuters who consider taking transit to work as a viable option due to reduced costs but worry about being dependent on transit during emergencies, to use transit.

**“Free Safety Shuttle”:** The Town of Leesburg provides funding to the Virginia Regional Transportation Association (VRTA) for operation of the free safety shuttle, which is a short transit

connection across the Route 7/15 Bypasses between Fort Evans Road and the Battlefield and the Leesburg Corner Outlet Mall. The free service is operated seven days a week on an unscheduled service of approximately every 20 to 30 minutes. This route would be abandoned once a funding for a permanent pedestrian overpass is secured. The Town of Leesburg recently submitted a grant application for Enhancement Funds under the Transportation Efficiency Act for the 21<sup>st</sup> Century (TEA-21) to implement the pedestrian overpass.

**“Park and Ride Lots”:** The County currently operates a system of leased park-and-ride lots. All major lots are served by the commuter bus system. There are two park and ride lots located in the Town of Leesburg where commuters can park their vehicles and take transit to their destinations. The Leesburg Air Park/Miller Drive park-and-ride lot is located at 805 Sycolin Road and Miller Drive. This lot was formerly located at the Leesburg Plaza and commuter parking is no longer allowed there. This parking lot is the biggest park-and-ride lot in Leesburg with 300 parking spaces. In addition to the lot there is on-street parking available on Miller Drive. The Leesburg park-and-ride lot is located at the Lutheran Church at Catoctin Circle and West Market Street. This lot provides 50 parking spaces.

**“Paratransit”:** On-demand paratransit services are provided by the Virginia Regional Transportation Association. The on-demand service is available with 24-hour advance notification and is available for fares as low as \$3. VRTA also offers demand-response service which is limited to the western regions of Loudoun County. The service provided to and from Leesburg and Lansdowne area. Additionally cross-county service is also available from Loudoun Hospital Center to Sterling for a fare of \$1 per ride with free ride for senior citizens every Thursday. All buses are wheelchair accessible.

**“Rail Service”:** The initiation of Metrorail and Bus Rapid Transit (BRT) services on Dulles Greenway Corridor/Dulles Toll Road will be an important component in the expansion of available public transportation options in the Town of Leesburg. A Draft Environmental Impact Statement (DEIS) has been submitted for the Dulles Corridor Rapid Transit Project. The corridor passes through the southern portion of Leesburg connecting to the Leesburg Bypass. Phase IV-B in the DEIS anticipates the initiation of Metrorail service to Loudoun County beginning sometime beyond the year 2020, which will present commuters with the option of taking rail from Leesburg to Washington D.C. and all areas in between.

Currently commuter rail service to Washington D.C. is available at Brunswick, Maryland, and at Point of Rocks, Maryland, about 10 miles north of town on Route 15. AMTRAK passenger trains use the same tracks but there are no scheduled stops at suburban stations outside Washington at this time.

**Potomac River Ferry:** The privately-operated White’s Ferry, located two miles north of town, provides a convenient connection from Leesburg to Montgomery County, Maryland, the Interstate 270 Corridor, and the northern suburbs of Washington, D.C. The ferry offers the only Potomac River crossing between the Capital Beltway (Interstate 495) and the Route 15 Bridge at Point of Rocks, Maryland.

**Aviation:** The Leesburg Executive Airport (JYO) is one of 68 public airports in the Commonwealth of Virginia and is located on approximately 207-acres of land within the incorporated limits of Leesburg. The town-owned airport is designated as a general aviation reliever airport in the

National Plan of Integrated Airport Systems (NPIAS) and serves an important role to provide capacity relief for the heavily congested airspace around Reagan-National and Dulles International Airports. The NPIAS states that reliever airports are specifically designed to be high capacity airports that provide attractive alternatives to commercial service airports for pilots operating in metropolitan areas. The 2001-2005 NPIAS identifies the future role of Leesburg Executive Airport to remain the same over the next 20 years. Locally, the airport is a critical facility for the overall development and economic diversification initiatives of the Town of Leesburg and Loudoun County. Furthermore, the presence of an airport in Leesburg provides the ability to connect into the national and global aviation-supported markets. The airport is operated as an enterprise fund.

The 2005 Master Plan Update for the Leesburg Executive Airport reports that the airport hosted 105,000 annual operations in 2003, which represents an annual compounded growth rate of approximately 1.85 percent since 1995. The aircraft based population for the airport has also increased steadily by approximately 3.33 percent per year for the period between 1982 and 2003. The current fleet mix includes 202 single engine aircraft, 17 multi-engine aircraft, 15 turbo-props/turbo-jets, and 1 rotorcraft (i.e. helicopter). Safety is always an issue at busy general aviation airports, such as Leesburg Executive Airport, and unfortunately the airport has seen four accidents in the past year and a half with three of these accidents including at least one fatality. The critical aircraft for evaluating airside facilities at the airport is the Gulfstream 300.

A major concern for the airport is the steady erosion of supposedly protected flight paths leading into and out of the airport. Currently, developed land surrounding the airport includes areas adjacent to Sycolin Road and to areas along Tolbert Lane west of the Dulles Greenway near Evergreen Mills Road. While the airport has non-compatible land uses encroaching upon a limited amount of airport property now, several major development approvals in the immediate vicinity of the airport could change the level of non-compatible land uses if and when they are built. The greatest impacts could be to the approach for Runway 17-35. The Town's zoning map indicates that there are approximately 365 acres of land currently zoned residential in the approach surfaces to this particular runway.

**Pedestrian:** Walking is a cornerstone and key to a community's transportation system. Every trip begins and ends as a walking trip; yet walking is most often the first forgotten mode. If the proper pedestrian environment is provided, walking offers a practical transportation choice that provides benefits for both individuals and their communities. The potential for increased walking is enormous since 1/4 of all trips in the United States are less than one mile in length. Features that contribute to making communities more walkable include a healthy mix of land uses, wide sidewalks, buffers between the edge of pavement and the sidewalk, and trees to shade walking routes. Slowing traffic, narrowing streets to reduce pedestrian crossing distance, and incorporating pedestrian infrastructure (i.e. signage, crosswalks, and adequate pedestrian phasing at signals) into future roadway design plans also make communities more walkable.

The availability of pedestrian facilities and amenities plays an important role in encouraging the use of alternative modes of travel to the automobile. Benefits associated with walking include the ability to ease traffic congestion, personal health/recreation, and reduced need for automobile parking facilities. In order to be considered a realistic transportation alternative, however, existing conditions need to be favorable for pedestrian use. The existing pedestrian network within Leesburg is a dichotomy between the more historic portions of downtown where sidewalks are provided along both sides of the street and post WWII development patterns beyond the downtown

core that either provide substandard pedestrian amenities or lack facilities altogether. Map 4 presents the existing pedestrian facilities within the Town of Leesburg.

The success of transit and other alternative travel modes are highly dependent on the state of pedestrian facilities and amenities. As a travel mode and recreation activity, walking offers the potential to reduce traffic congestion, improve air quality, and contribute to healthier citizens. In Leesburg, sidewalk deficiencies and a largely inhospitable pedestrian environment contribute to a reliance on the automobile even for shorter trips.

Recognizing the importance of the pedestrian environment, the Town of Leesburg should complete a town-wide pedestrian facilities study for providing an interconnected pedestrian system that connects local residents and visitors to the area with transit stops and close-by destinations. Upon completion of the study, the Town should act on the conclusions and recommendations from the study to target improvements to the pedestrian environment in the Town's Capital Improvement Plan and/or partner with the County and other regional transportation agencies for implementing a safe, comprehensive pedestrian network within Leesburg and the surrounding area.

**Bicycle:** Bicycling provides both transportation and recreational opportunities for the citizens, employees, and visitors of Leesburg. Bicycle facilities can range from wide curb lanes with no striping to marked bicycle lanes to off-road bicycle paths. The target user for each application and the unique circumstances of the particular roadway help to determine the bicycle treatment that is most appropriate. For example, on roadways with relatively low automobile volumes and slow travel speeds, experienced bicyclists often feel comfortable riding in mixed-flow traffic with no specific bicycle facilities provided. Marked bicycle facilities or adjacent bicycle paths are desirable as traffic volumes and travel speeds become higher.

An inventory of existing and planned bikeways within the town was obtained from the Town of Leesburg geographic information system (GIS) database supplemented by a review of plans and projects contained in other jurisdictional transportation studies. Map 5 presents the existing bicycle network within the Town of Leesburg. Most of the streets in Leesburg are primarily designed for motorized vehicles at the expense of non-motorized modes of travel. Recent efforts to incorporate off-road side paths near newer development have produced a discontinuous and inadequately designed system for bicycle activity – characterized by narrow widths, poor pavement or surface quality, frequent curves and undulations, and lack of connectivity. This has served recreation uses but not transportation objectives.

Furthermore, the complete reliance on an off-road trail system is not possible due to implementation costs and funding constraints and is not necessarily the safest or most desirable option for developing the town's bicycle network.

The town is bisected east-west by a very popular multi-use rail-trail, the Washington and Old Dominion (W&OD), connecting points in Arlington County and Purcellville with the Town of Leesburg. Two other trails provide access to Leesburg, including:

- The Goose Creek trail that runs along Goose Creek on the eastern portion of town



- The trail segment in the north end of town that connects Battlefield Parkway Trail, North King Street Trail, Ida Lee Park Trail, Old Waterford Road Trail, Fairview Street Trail and Catoclin Circle Trail

There are some concentrations of smaller bike trails on the northern side of Battlefield Parkway Trail and southeast of W&OD trail. The Town's Comprehensive 20-Year Parks, Recreation, Open Space, Trails and Greenways Master Plan presents a system of existing, proposed and recommended trails within the Town of Leesburg. As recognized in the currently adopted Transportation Element, the function of these trails as a transportation link is limited due to the lack of connectivity of these trails to other bicycle paths and residential areas. The Town should focus its efforts in creating a comprehensive network of bike paths and trails in order to promote biking as an affordable transportation mode as well as a recreational opportunity.

In transportation planning, bicyclists are often separated into three levels of bicycling ability. An improvement deemed adequate for one group may not be suitable for another group. Therefore, user profiles are established to help local officials target appropriate bicycle improvements. Three profile user groups for bicyclists are:

- **Experienced** – Experienced Riders can handle most traffic conditions. Some experienced riders ride mainly for recreation while others use the bicycle for primary transportation. This group is comfortable riding on collector and arterial streets and is best served by direct access destinations via the existing street system. Requirements include sufficient width on the roadway or shoulder so that neither the motorist nor the cyclist needs to change position when passing.
- **Basic** – The majority of adult or teenage rides are considered basic cyclists. This group uses bicycles too infrequently to develop advanced cycling skills and prefers comfortable direct access to destinations via low volume streets or designated bicycle facilities. Most basic riders ride for recreation; however, for some members of this group bicycles may be the primary means of transportation to school or work.
- **Children** – Children and preteen riders lack experience mixing with vehicular traffic and their bicycle use is primarily for recreation and may be monitored by their parents. This group prefers residential streets with low motor vehicle speed limits and traffic volumes or separate off-road facilities. Well-defined separation of bicycles and motor vehicles on arterial and collector streets is required as a minimum. Ideally, separate bike paths should be provided.

In Leesburg, the user profile most appropriate for targeting bicycle improvements within the transportation system is the 'basic' rider. Planning for this group best responds to the numerous requests made at the sector and visioning meetings held last year for improving bicycle conditions within the community.

In addition to user groups, the 'toolbox' established by transportation professionals for implementing bicycle improvements across the country usually contains at least four design elements or alternatives – wide travel lanes, on-street bicycle lanes, and shared, multi-use paths (or trails). These applications are generally characterized by:

- **Wide Travel Lanes** – A wider outside travel lane allows a motorist to safely pass a bicyclist while remaining within the same lane of travel. This improvement is considered a significant benefit and improvement for experienced and basic cyclists. Fourteen feet is typically

INSERT MAP 4 - EXISTING PEDESTRIAN FACILITIES

INSERT MAP 5 - EXISTING BICYCLE FACILITIES

recommended for the width of a travel lane meant for use by both motorists and bicycles. Continuous stretches of pavement wider than fifteen feet may encourage the undesirable operation of two motor vehicles in one lane.

- **On-Street Bicycle Lanes** – On-street bicycle lanes form the portion of the roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use by bicyclists. Bicycle lanes make the movements of both motorists and bicyclists more predictable. State and national design manuals for the construction of on-street bicycle lanes generally recommend a minimum of four feet in width measured from the edge of gutter for a bicycle lane and a minimum of five feet in width when adjacent to on-street parking.
- **Shared Multi-Use Paths** – Shared multi-use paths (or trails) can serve bicycles and pedestrians in one “non-motorized” transportation corridor either adjacent to, or completely independent of, the street system. One path usually accommodates two-way travel and is constructed up to twelve feet in width to facilitate passing and mixing of modes. These facilities are typically separated from a motor vehicle travel lane by five feet or more. One drawback to shared, multi-use paths is the number of safety conflicts at intersections and driveways presented by having a two-way facility on only one side of the street. The location of destinations along the path may also lead to additional street crossings made to access homes and businesses opposite the path.
- **Bicycle Routes** – In some instances, a portion of the community’s existing street system may be fully adequate for efficient bicycle travel and conventional signing and striping unnecessary. The most common example of these types of streets is in residential neighborhoods where low traffic volumes and low travel speeds allow bicyclists to comfortably mix with traffic. Typically, the posted speed limit on these streets should 25 miles per hour for these unmarked facilities. Where appropriate, trail-blazing signage may be installed to designate “bicycle routes” on some of these streets to alert bicyclists to certain advantages of the particular route over other routes. This is most appropriate when hoping to provide continuity with other bicycle facilities and designate preferred routes through high-demand corridors. Once a bicycle route is designated, responsible government agencies should monitor conditions along the route and take action, when appropriate, to maintain these routes consistent with the needs of bicyclists.

The most appropriate bicycle network for Leesburg is a combination of the four design elements mentioned above. With an emphasis on the needs of the “basic user”, certain design elements will be preferred to provide comfortable direct access to destinations. The preference among the four design treatments for any one street segment will be a function of traffic volumes, travel speeds, right-of-way constraints, adjacent land uses, and route directness. One significant constraint in designing the local bicycle network will be the narrow rights-of-way within downtown Leesburg's historic district; however the overwhelming presence of streets posted at 25 miles per hour does provide an attractive grid of potential streets to choose from when building the network – subject to the other prioritization criteria above.

A qualitative review of the existing bicycle network finds that the combination of missed opportunities and rapid development surrounding the town threatens its ability to maintain a safe and convenient transportation system for bicycles. Improvements are underway to State Highway 15 just north and south of town including a multi-use trail on the west side of the road south of town and wide, paved shoulders to Edwards Ferry Road north of town. The Town of Leesburg, Loudoun County, and the Virginia Department of Transportation have all collaborated on these efforts and coordination efforts are underway to ensure that bicycle accommodations are

incorporated into all future roadway improvements on arterial and collector streets with traffic volumes greater than 1,000 vehicles per day. The County also acknowledges their commitment to designate the following roadways as bicycle routes within Leesburg – Route 7, Edwards Ferry Road, River Creek Parkway, Sycolin Road, Miller Drive, Kincaid Boulevard, and Trailview Boulevard. A trail connection between the W&OD rail-trail and Whites Ferry on the Potomac River is also a priority within the County.

Building on the identification of potential segments for the local bicycle network and the Loudoun County Mobility Master Plan, the Town of Leesburg should complete a town-wide bicycle facilities study for providing an interconnected bicycle system that connects local residents and visitors to the area with transit stops and close-by destinations. Such a study could be combined with the pedestrian facilities study previously mentioned. Upon completion of the study, the Town should act on the conclusions and recommendations from the study to target improvements to the bicycle environment in the Town's Capital Improvement Plan and/or partner with the County and other regional transportation agencies for implementing a safe, comprehensive bicycle network within Leesburg and the surrounding area.

### Transit Oriented Development

Transit Oriented Development (TOD) represents sites located around transit centers or along transportation corridors based on an urban form supportive of promoting high-quality transit service. These areas typically include a mix of land uses (i.e. residential and non-residential) built at traditionally higher densities. In a transit center, the development pattern and the transit system share a symbiotic relationship benefiting from each other's locational advantage; meaning that mixed-use developments with higher densities justify increased transit service by increasing patronage for the system while proximity to a transit station will attract more residents and/or employers to the area that are seeking to use public transit for a portion of their travels.

Transit Oriented Development is credited with relieving traffic congestion on surrounding roadway networks by shifting automobile trips to transit trips and by capturing a certain amount of trips on-site between the complement of residential and non-residential land uses. Literature surveying transit oriented developments implemented across the country reports a 5-20% vehicle trip reduction associated with this development pattern. TODs are also attributed with offering a variety of housing types with varying price points, minimizing the travel distance between certain land uses, and a more healthy citizenry facilitated by the walkable design of neighborhoods surrounding the transit station. The same literature review recommends a minimum residential density of 7.0 dwelling units per acre and a minimum employment density of 25 employees per acre to support transit oriented development served by traditional bus service and about twice these minimums for locations served by rail service. For comparison, the average residential density reported for the Town of Leesburg ranged between 3.44 and 4.65 depending on the specific type and zoning for residential land use.

The densities reported for Leesburg are considerably lower than the density thresholds recommended in the national literature and the statistics identify the need to increase residential densities and non-residential intensities in targeted areas if transit is desired in the future. Great opportunities existing within Leesburg to introduce successfully transit oriented development projects based on planned premium transit service in the Dulles Greenway and Route 7 Corridors

and within town for local bus routes. The Town should proactively study land use in these corridors for potential TOD development and coordinate with officials for Loudoun County and the Virginia Regional Transportation Association to realize mutual interests for bringing land use and transportation together to support public transit as a viable transportation mode within Leesburg and the surrounding community.

### Responsible Development

The Town of Leesburg constructs and maintains the transportation system in cooperation with the Virginia Department of Transportation (VDOT) and through developer participation. The Leesburg Public Works Department maintains all streets in town with the exception of the Route 7/15 Bypass and Route 7 East, which are part of the state highway system and maintained by the VDOT. Roadway construction within the town is funded by the VDOT and from local revenues. Improvements to major and minor arterials are almost completely funded by the state when included in the annual primary or secondary road improvement plan for the Leesburg area. However, not all improvements required to maintain established roadway level of service standards are included in the state funded improvement plans; therefore, the Town is forced to identify other revenue generating sources for completing the transportation network.

The Town currently relies solely on “proffers” to fund the shortfall in revenues for completing the transportation system; although other strategies are enabled under the Code of Virginia to offset development impacts. The most promising strategy enabled under the Code of Virginia is the collection of impact fees for new development (Section 15.2-2322). In general, a local government may adopt an ordinance establishing a system of impact fees to fund or recapture all or part of the cost of providing reasonable road improvements required by new development after adoption of a comprehensive road improvement program. These impact fees would be assessed at the time of site plan approval. The ATLAS study, published on January 25, 2001, also advocates for the use of concurrency statutes as a viable tool for controlling development; however managing development through concurrency statutes is not currently enabled under the Code of Virginia. While not a revenue source, a third alternative for lowering the financial burden to the Town for maintaining and/or enhancing the transportation system is to offer developers “multi-modal development credits” for incorporating land use and transportation solutions that offset the disproportionately high amount of single-occupant automobile traffic typically associated with conventional, suburban-scale development.

The sections that follow summarize each of the tools currently available to the Town for sharing infrastructure costs with private developers.

**Proffers:** The Virginia General Assembly enacted legislation in 1974 that allows localities to accept voluntary “proffering” of certain conditions, as part of conditional zoning, to offset the negative impacts of a particular development application on the surrounding infrastructure. In 1987, the Town of Leesburg commissioned a transportation impact study to quantify the daily trips that would be generated by anticipated future development within the town and estimate of the cost for completing the principal elements of a regional transportation network for Leesburg depicted in the adopted Transportation Policy Map. The study has been useful in educating the town and the development community as to the “real” costs of providing major transportation improvements that would be needed to support anticipated future development. The analysis provided in the 1987

study forms the basis for the development community to propose proffered contributions to offset expenses to the town for improving the transportation system in response to applications for proposed development.

The calculated costs per unit of development reported in the original 1987 study are routinely updated to reflect revisions to the Institute of Traffic Engineers *Trip Generation Manual*. In addition, the cost per unit of development is routinely updated by the Town to incorporate appropriate inflation indices. Figure 5 provides a current (i.e. 2004) consolidated list of land use categories and their respective pro-rated shares of transportation improvement costs. These cost estimates for the basis for the proffer system in Leesburg.

**Figure 5: Off-Site Transportation Cost Data**

Land Use	Development Unit	Average Daily Trips (ADT)	Cost per Unit of Development*
<b>Residential</b>			
Single-Family Detached	dwelling unit (d.u.)	10.1	\$2,218
Townhouse	dwelling unit (d.u.)	7.0	\$1,553
Multi-Family Attached	dwelling unit (d.u.)	6.0	\$1,331
<b>Retail</b>			
Shopping Center (0 – 50,000 s.f.)	1,000 s.f.	117.0	\$26,147
Shopping Center (50,001 – 99,000 s.f.)	1,000 s.f.	82.0	\$18,185
Shopping Center (99,001 – 199,000 s.f.)	1,000 s.f.	66.7	\$14,792
Shopping Center (> 199,001)	1,000 s.f.	50.6	\$11,221
Restaurant	1,000 s.f.	74.9	\$16,611
Supermarket	1,000 s.f.	125.5	\$27,831
Bank	1,000 s.f.	192.0	\$42,578
Health Club	1,000 s.f.	11.7	\$2,595
Hotel	room	10.5	\$2,329
Other	1,000 s.f.	45.5	\$10,091
<b>Institutional</b>			
Government	1,000 s.f.	68.93	\$15,286
Hospital	Bed	11.4	\$2,529
Library	1,000 s.f.	41.8	\$9,270
School (Nursery)	student	1.02	\$227
School (Elementary)	student	1.16	\$258
School (Middle)	student	1.39	\$309
School (High)	student	10.5	\$2,329
<b>General Office</b>			
Office (0 – 99,000 s.f.)	1,000 s.f.	17.7	\$3,926
Office (99,001 – 199,000 s.f.)	1,000 s.f.	14.3	\$3,171
Office (> 199,001 s.f.)	1,000 s.f.	10.9	\$2,414
<b>Industrial</b>			
Light	1,000 s.f.	5.46	\$1,212
Heavy	1,000 s.f.	1.5	\$333
Park	1,000 s.f.	7.0	\$1,553
Warehouse	1,000 s.f.	4.88	\$824
Airport	employee	20.0	\$4,436
Regional Park	acre	5.1	\$1,131

\* = Cost per Unit of Development last updated December 2004

To date, proffers are the only private funding mechanism used by the Town of Leesburg for offsetting the impacts of new development on the surrounding roadway network. The remaining sections in this discussion are available in the Town's toolbox; however none of them should be

considered without further study and evaluation by Town staff and endorsement by the Town Council.

**Development Impact Fees:** Development impact fees offer an alternative funding mechanism to proffers to ensure that the development community pays a reasonable share of the costs of public facilities. Like proffers, impact fees help local governments avoid placing the entire burden of adding capital improvements and expanding infrastructure capacity for new development on existing taxpayers. Impact fees generally reflect a charge or assessment imposed against new development in order generate revenues to fund or recover the costs of reasonable improvements to public facilities and services necessitated by new development. Generally, impact fees offer the following benefits simultaneously to the town and private developers:

- Standardizes the costs for all developers within the same service area
- Clarifies the kinds of facilities and improvements for which developers may be charged
- Ensures that the Town would spend funds collected through impact fees on capital improvements that directly benefit the project being charged
- Ensures that capital improvements are completed within a reasonable time after fees are paid
- Establishes a developer's infrastructure costs early in the development process so that project financing can be arranged

The Town of Leesburg is already enabled under the Code of Virginia to collect impact fees for new development. This power does not require administrative structure; however, the strategy for implementing an impact fee ordinance can be complicated to administer depending on the implementation authority. In addition, no impact fees may be assessed or imposed upon new development if the applicant has proffered conditions pursuant to Section 15.2-2298 or 15.2-2303 in the Code of Virginia for off-site road improvements and the proffered conditions have been accepted by the local government. The attractiveness of impact fees differs for many communities – strongly advocated for in high-growth areas and strongly-opposed as burdensome in more slow-growth areas.

**Multi-modal Development Credits:** The philosophy behind “multi-modal development credits” is to reward developers that reduce the burden on the overall transportation system depicted in the Transportation Policy Map by attacking the demand side of the equation (i.e. automobile trips generated by new development) in the 1987 traffic study prepared to forecast future year travel demands. Under this system, developers would provide proffers to the Town in the form of design innovations supportive of reduced trip generation or modal shifts for travel to and from the site rather than cash contributions. The reduced demand on the transportation network associated with the deliberate link between land use and transportation could potentially save new and existing roadways from being ‘over-designed’ to move traffic at the expense of the town's character.

Any system developed to provide “multi-modal development credits” in exchange for livable design would need to go through extensive scrutiny by public and private interests before being implemented in the Town's Zoning Ordinance. However, this tool in the toolbox could serve to supplement the existing system of proffers in place for the Town of Leesburg with careful study and application. One example may be to allow a trip reduction factor for the trip generation rates used in the Off-Site Transportation Cost Data table when certain design elements supportive of transit-



oriented design are incorporated into a site plan; thereby resulting in a lower “cost per unit of development” to the developer.

## Findings: Priority Issues for the Transportation Element

The following is a summary of findings and conclusions resulting from the preceding analysis and will be used to give direction to the new town plan. This analysis considers the content of the 1997 Town Plan, the themes recommended by Leesburg’s citizens and commissions, other plans, projects, and policies contained in other jurisdictional transportation studies; the Loudoun County General Plan, existing conditions and trends, and recent developments in transportation planning practice. The findings are followed by proposed goals and objectives for the new element.

**Finding:** The Transportation Element included in the plan is generally regarded as “served its purpose” and is now in need of restructuring to reflect the citizens desires for a multi-modal transportation system.

**Finding:** The 1997 Transportation Element established a LOS C threshold for existing conditions. The commitment to a Level of Service C standard is considered by some to be unrealistic for particular incorporated areas in Virginia as vehicle miles travel continue to increase and municipal funding shortfalls limit building many major new roadway improvements. The Town of Leesburg should direct staff to complete an internal audit of the current system for evaluating and maintaining level of service standards within the town to determine whether more efficient and equitable provisions are appropriate and whether the current level of service standards should be revisited. Currently, the evaluation criteria for traffic impact studies, the context for reporting existing and future conditions in the Town Plan, and the unit of measurement (i.e. average daily trips) for collecting revenues under the proffer system all use different units and methodologies for evaluating transportation performance.

**Finding:** The most pressing problems to increasing transit patronage in suburban counties, such as Loudoun County, is the traditionally low-density development and suburban sprawl, a lack of transit-oriented design, and a lack of convenient pedestrian access. While it may be difficult to retrofit many communities for transit, the Town of Leesburg should coordinate with Loudoun County and the Virginia Regional Transportation Association to target nodes for potential transit oriented development within the town that complement future bus rapid transit and/or rail transit planned for the Dulles Greenway and Route 7 and within town along local bus routes. To this end, the Town should evaluate the types and horizons for transit, and then identify specific geographic areas, design principles, and potential regulations, when appropriate.

**Finding:** Leesburg, like many towns with Loudoun County, is struggling to balance historic character, quality-of-life, and ever increasing traffic demands within their communities; especially the amount of pass-through traffic that is the direct result of increasing low-density, residential development in the surrounding county.

**Finding:** Routine coordination between various transportation agencies must be maintained to foster continued partnerships for a common goal. This is especially important in

Leesburg as it tries to be on the forefront of livable, multi-modal design solutions for addressing rising congestion levels on major roadways. The Town should continue to strengthen coordination channels with regional transportation agencies in the future. To this end, the Town of Leesburg should lobby to become a voting member of the Northern Virginia Transportation Authority.

- Finding:** Decisions for planning, funding, and implementing transportation improvements that impact the Town of Leesburg are influenced by up to seven regulatory agencies, including the Northern Virginia Regional Commission (NVRC), the Metropolitan Washington Council of Governments (MWCOC), the National Capital Region Transportation Planning Board (TPB), the Northern Virginia Transportation Commission (NVTC), the Virginia Department of Transportation (VDOT), and the Virginia Regional Transportation Association (VRTA), and Loudoun County.
- Finding:** One of the most pressing hurdles for Leesburg towards linking land use and transportation planning is the context in which decisions are made. In the Commonwealth of Virginia, land use planning is regulated on the local level and memorialized in adopted comprehensive plans. Conversely, transportation planning in Virginia is primarily the responsibility of VDOT and regional planning agencies concerned with issues impacting the county, multi-state, and/or the Washington D.C. metro geographic areas. The disconnect between land use and transportation planning in Virginia often places local and regional government agencies at odds over single critical issues – each with their own political agendas and implementation schedules.
- Finding:** The Town of Leesburg should actively coordinate with Loudoun County on the land use and transportation policies identified in the revised CTP that impact the town and the JLMA. To this end, a “communication” team of planners and engineers for both governments may be helpful to start dialog and provide a structure for continued coordination. Town officials should also coordinate with Loudoun County and the Virginia Regional Transportation Association (VRTA) to evaluate areas in Leesburg that could become potential transit centers.
- Finding:** Reasonable draft recommendations from the 2005 Airport Master Plan Update should be incorporated and/or referenced into the new Town Plan to ensure that land use and transportation policies incorporated therein consider potential impacts to, and the unique needs of, the Leesburg Executive Airport.
- Finding:** Although the airport has been promoted, it has not been protected; nor has it been integrated into an inter-modal transportation system.
- Finding:** Public transportation is being viewed favorably by regional transportation agencies in Virginia as the intermediate and long term solution for addressing rising congestion levels on major roadways. To increase transit patronage in Leesburg, we need to promote transit oriented development in specified corridors – especially on Route 7, Route 15, and the Dulles Greenway – and make pedestrian access more convenient throughout the transit network.

- Finding:** The success of transit and other alternative travel modes are highly dependent on the state of pedestrian facilities and amenities. As a travel mode and recreation activity, walking offers the potential to reduce traffic congestion, improve air quality, and contribute to healthier citizens. In Leesburg, sidewalk deficiencies and a largely inhospitable pedestrian environment contribute to a reliance on the automobile even for shorter trips. The Town of Leesburg should reinvest in the pedestrian environment by retrofitting sidewalks or multiuse trails where feasible and requiring that new development include pedestrian amenities.
- Finding:** The currently adopted Northern Virginia 2020 Transportation Plan requires \$30 billion to fully implement the plan over the next 20 years, with approximately \$14 billion of these improvements still unfunded. The Town of Leesburg needs to coordinate with the Northern Virginia Transportation Authority (NVTa) as projects in the Northern Virginia 2020 Transportation Plan are incorporated into the regional long range plan for implementation. The Town should also make sure that it is actively involved in all feasibility studies and preliminary design plans for major improvements included in the in long range plan to advocate for context sensitive design and coordination with land use.
- Finding:** The Town of Leesburg should review the Network Map created as part of the County's Mobility Master Plan and incorporate reasonable recommendations into local transportation policy documents, including the new Town Plan and the Design and Construction Standards Manual. Town officials should also coordinate with the county for the potential to share baseline information produced in the County's Mobility Master Plan for creating their own bicycle and pedestrian master plan that refines the recommendations made in the county plan and studies certain areas and/or issues in more detail.
- Finding:** At a local level, Leesburg identifies an ambitious trail network for the urban growth area. The Town of Leesburg and Loudoun County both recognize the importance of bicycle and pedestrian mobility for implanting a sustainable transportation system. Together, town and county planning departments should work together in the Joint Land Use Management Area (JLMA) to retrofit existing transportation corridors with bicycle and pedestrian facilities and revise existing zoning ordinance language to require developers contribute their fair share towards incorporating the trail network, pedestrian facilities, or bicycle facilities into new development. These actions are supported by repeated public comments for improving bicycle and pedestrian facilities within the town.
- Finding:** Several of the transportation studies summarized in the Transportation Element Background Report assume conditions and make recommendations for the short term (i.e. five year), intermediate term (i.e. ten year), and long term (i.e. twenty year) planning horizons. The Town of Leesburg should consider similar planning horizons in the Transportation Element to make it more financially realistic and allow for transportation policies that better integrate with other agencies' guiding documents and the phasing of land use decisions.
- Finding:** The Town of Leesburg lacks a consistent local funding source for implementing locally-desired transportation improvements. This makes the town dependent on other state,

regional, and county transportation agencies for funding opportunities and schedule subject to a competitive selection process. Town officials should consider other alternative funding mechanisms enabled under the Code of Virginia to share the costs of providing infrastructure supportive of new development, including development impact fees.

**Finding:** Protection of right-of-way is critical to fiscally sound planning for future transportation corridors.

**Finding:** The Design and Construction Standards Manual (DCSM) for the Town of Leesburg does not include standards for a truly multi-modal transportation system within the town. Nor does it reflect the recommendations in the new publication from the Virginia Department of Transportation entitled “Subdivision Street Design Guide”.

**Finding:** The Town of Leesburg does not currently, or is anticipated to, have a parking deficient within the downtown; however operational and organizational changes should be implemented to maximize the supply.

**Finding:** The Town Plan should address the need for appropriately located commuter parking lots consistent with the County’s Toll Road Plan; especially as it relates to the eventual development of 3,000 parking spaces in western Loudoun County. An additional park-and-ride lot to serve bus routes using Route 7 should also be considered. The Town should coordinate with county or other appropriate regional transportation agency to consider specific alternatives identified for the Town of Leesburg in the recent park-and-ride study completed by Loudoun County.

**Finding:** The Town of Leesburg is generally supportive of the Western Transportation Corridor (WTC) if located east of Goose Creek; however, while the town is supportive of the bypass it should examine all subsequent plans, programs, and policies in support of the new facility to make sure that it does not negatively impact quality-of-life for Leesburg neighborhoods or terminate at Route 7. It is also important for Town officials that the new bypass not negatively impact traffic flow on Route 15 and that the proposed bridge crossing not draw additional regional commuter traffic through the town.

**Finding:** The Town of Leesburg should reevaluate the recommendations in the Downtown Traffic Study against a broader set of criteria including traffic flow, economic vitality, maintaining the historical context of downtown, and design feasibility.

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**Draft Goals and Objectives for the Transportation Element**

Based on the foregoing inventory and analyses, the following draft goal and objectives are offered for discussion:

**Goal**

Leesburg will provide for a safe, convenient and efficient motorized and non-motorized transportation system that satisfies the transportation mobility needs of town residents and visitors while maintaining the character of the town.

**Objectives**

- The Town of Leesburg will continue to use Level of Service C at development build out and Level of Service D at build out plus 20 years as its level of service standard for evaluating development applications within town limits until such time that an internal audit of the transportation planning process can be concluded to determine whether revisions to the system could be made to better reflect the commitment to a multi-modal transportation system and/or whether the current level of service standards are still appropriate.
- Transportation planning in the town will be conducted for the short term (i.e. five year), intermediate term (i.e. 10 year), and long term (i.e. 20 year) planning horizons to be consistent with other county and regional transportation plans and programs for identifying potential improvements to the transportation network.
- Dramatic increases in population and the unique characteristics of the transportation system in Leesburg warrant development of a localized transportation model for forecasting future year conditions. The town should explore establishing the model with the help of the county and regional transportation agencies.
- Development and expansion of the town's transportation system will be done in a way that does not adversely impact community and neighborhood integrity.
- The Town of Leesburg will study the potential for transit oriented developments adjacent to corridors identified for future premium transit (i.e. bus rapid transit and rail transit) and/or local bus routes within town and make revisions, as necessary, to the Town Ordinances for geographically specific areas.
- The Town of Leesburg will coordinate with Loudoun County, the Northern Virginia Regional Commission (NVRC), the Metropolitan Washington Council of Governments (MWCOG), the National Capital Region Transportation Planning Board (TPB), the Northern Virginia Transportation Authority (NVTA), the Virginia Department of Transportation (VDOT), the Virginia Regional Transportation Association (VRTA), and the Federal Aviation Administration (FAA) to implement transportation capacity and safety improvements (motorized and non-motorized) to the transportation system within, and adjacent to, the Town of Leesburg so that the desired future growth patterns along these corridors shown in the Land Use Policy Map may be adequately supported. To this end, the Town should lobby to become a voting member of the Northern Virginia Transportation Authority.

- In the spirit of recommendations from the final ATLAS study, the Town of Leesburg is committed to coordinate with Loudoun County and other regional transportation agencies to better coordinate land use and transportation for solving regional congestion problems.
- Promote and protect the Leesburg Executive Airport as a major regional airport and a potential center for national and international commerce.
- Increase utilization of transit service by local residents, employees and visitors to help reduce motor vehicle use and traffic congestion.
- Leesburg will provide a safe, convenient, continuous, comfortable and aesthetically pleasing transportation environment that promotes bicycling and walking as legitimate alternatives to the single occupant automobile for trips less than one mile in length.
- Encourage equitable distribution of financial responsibility for construction of off-site roadway improvements necessitated by new development in accordance with existing and potentially new methods for negotiations to mitigate these off-site development impacts. One option is the use of impact fees, assessed equally among all developers. This provides a level of predictability not achievable with proffers.
- Adopt a local source of funding so that the town is not dependent solely upon developer proffers or being put in the position of approving rezonings just to obtain road improvements.
- The Town should refine the street standards contained in the Design and Construction Standards Manual (DCSM) to address the needs of the town in terms of function, aesthetics, safety compatibility with the properties they serve, and cost of public maintenance. Furthermore, the revised standards should provide guidance for implementing design features that support multimodal transportation and strengthen the local character of Leesburg.
- The Town will protect right-of-way for future transportation planning through the use of maps of reservations and on- and off-site improvements associated with development to implement improvements to the transportation system in a fiscally sound manner.